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STATE BOARD *of* ELECTIONS

BOARD MEETING

Tuesday, April 14, 2015
General Assembly Building
Room D
11:00AM

SBE Board Working Papers

STATE BOARD OF ELECTIONS
AGENDA

DATE: April 14, 2015
LOCATION: General Assembly Building, House Room D
TIME: 11:00 a.m.

I. CALL TO ORDER — *James B. Alcorn, Chair*

II. COMMISSIONER'S REPORT — *Edgardo Cortés, ELECT Commissioner*

III. REPORT FROM LEGAL COUNSEL — *Anna Birkenheier, SBE & ELECT Legal Counsel*

IV. NEW BUSINESS

A. Interim Report on Voting Equipment Performance, Usage and Certification — *Edgardo Cortés, ELECT Commissioner*

B. Public Hearing Regarding Certification Status of WinVote System — *SBE Board Members*

V. OTHER BUSINESS & PUBLIC COMMENT

VI. GOOD OF THE ORDER

VII. ADJOURNMENT

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STATE BOARD *of* ELECTIONS

Call to Order

BOARD WORKING PAPERS

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Commissioner's Report

BOARD WORKING PAPERS

Edgardo Cortés
Commissioner
Department of Elections

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Legal Report

BOARD WORKING PAPERS
Anna Birkenheier
Assistant Attorney General

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New Business

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Interim Report on Voting Equipment Performance, Usage and Certification

BOARD WORKING PAPERS

Edgardo Cortés
ELECT Commissioner

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Public Hearing Regarding Certification Status of WinVote System

BOARD WORKING PAPERS
SBE Board Members

Comments Received on WINVote Certification Status

Rex Bishop	**voting, scantron** I prefer the scantron type of voting since it creates an audit trail for verifying votes. Electronic may or may not have an appropriate re-count ability. Electronic devices also can have cybersecurity issues.
J. S. Jarrett	**comment** I have no clue what the problem is. I prefer electronic voting and expect the Board to provide secure voting for the public. You cannot expect the public to take responsibility for cyber problems. Make the electronic voting secure, plain and simple. Duh!
Barbara Wagner	**Scantron Works** I believe that the Scantron system has worked just fine up to this point and unless there are serious concerns about accountablity and security with the Scantron system that Virginia stick to what works.
Robert N. Sparbel	**Reliable means of voting** I prefer voting with a paper ballot. Once marked it remains available for recounts should one of the reading/counting machines fail or be shown to not be working properly. I do not trust other forms of recording votes. I believe any equipment which which uses wireless networking, even if encrypted, leaves open the possibility of hacking and thus vote tampering.
Robin Lind, Chair, Goochland County Electoral Board	**RE: The Voting Equipment Audit Report** **The Voting Equipment Audit Report** This report prepared by Pro V&V, dated March 12, 2015, was alarming and provocative but inconclusive. The auditors physically examined 27 AccuVote TSX machines in **Virginia Beach** and found all had issues of eroded capability due to age. This is valuable data but there is no actionable rating of EOL expectations that localities can use. In **Henrico County**, where a "high level of anomalies" had been cited in the November 2014 election, the auditors were unable to examine any AVS WINvote machines because of an impending special election. Conclusions were offered that were not specific to Henrico's machines and this data is not valuable. In my opinion, there was no audit here. In **Spotsylvania County**, where "a high level of anomalies" occurred in Precinct 302 in November, 2014, the auditors tested "four spare machines" rather than the actual machines which had been in use in Precinct 302. In my opinion this is not a valuable comparison and not an audit. The auditors also declared that they were able to "connect" to the WINvote wireless network with their cell phones but there is no allegation they were able to transmit data in either direction, nor to crack the encrypted code on the WINvote DREs. This is a technical area beyond my expertise but I see no evidence from the auditors that they were able to do anything more serious than determine from their cell phones that a wireless network was active in their immediate vicinity. If there is more to it, we need details. **ELECT's Interim Report** This report offers details of the Spotsylvania County issues in Precinct 302 including the allegation of a smartphone streaming music from the public library wireless network being the primary suspect for WINvote DREs "crashing" in succession. These actual voting machines have now been turned over to the State Police for examination in a formal inquiry. It will be very instructive to learn whether this anomaly can be replicated and whether the encrypted data on these machines was at any time vulnerable to alteration or erasure. The results of this formal investigation should provide actionable data for the State Board of Elections. Without empirical proof of actual failure or open vulnerability to result manipulation, any action to de-certify WINvote DREs would be reckless, and the damage to the integrity of the elections community would be incalculable. The cost to affected localities would be severe. The recommendations for substantial improvement in the ability of the Department of Elections to conduct comprehensive audits, regular certification review, and thorough post-election analysis is well founded and long overdue. I applaud the Department for its investigation and for the transparency with which it is being conducted. Please continue to move with caution and deliberation on this most challenging time.
Richard Herrington, Secretary, City of Fairfax Electoral Board	**Department of Elections Effort to Decertify WinVote Equipment** The City of Fairfax Electoral Board has grave concerns in regard to the recent actions of the Department of Elections directed towards WinVote voting equipment. Specifically, the Department of Elections has unilaterally decided WinVote equipment does not meet the needs of all localities and the voters of Virginia, and with little notice, announced a public meeting to discuss a flawed Interim Report on DRE voting equipment and the certification status of the WinVote system. It is clear the intent of the Department of Elections is to decertify the WinVote equipment. The studies and surveys of WinVote equipment directed and just made available by the Department of Elections are significantly

	flawed. It appears the Department of Elections decided the investigation of voting equipment would ignore the manufacture of the WinVote equipment and localities which have a continuous positive experience with WinVote equipment. To state the concern clearly, the City of Fairfax Electoral Board believes the Department of Elections has unilaterally decided to decertify WinVote equipment and to support that predetermined result, has selectively extracted from Department of Elections directed audits/studies and surveys "findings" to support that action. The infringement on localities by this aggressive move by the Department of Elections to decertify WinVote equipment is unprecedented. The fiscal impact on localities will be significant. The Department of Elections is aggressively moving to solve a problem that does not exist in the City of Fairfax or other localities which have repetitive, positive experiences with WinVote equipment. An undated Interim Report on voting equipment performance, usage & certification conducted under the auspices of the Department of Elections appears more focused on a different agenda (obtaining additional staff for the Department of Elections) than presenting an objective analysis of WinVote equipment.
James C. Brown, Precinct Chief, CAP, City of Fairfax	**Decertification of WINVOTE** Having served as an Officer of Elections, Secretary of the Electoral Board, and Precinct Chief for a number of elections over the past decade or so, I think the WINVOTE DRE voting machines are very good. They seldom have problems and when they do they are very easy to re-boot and no votes are lost. When we close down after a day of voting, WINVOTE DRE gives us multiple copies - by machine and by location - of the votes cast on the machines. If our WINVOTE DREs are decertified, we'll have to spend additional money and re-train 30-50 OEs. Why do that? We already have good machines and knowledgeable OEs. Respectfully, Jim Brown
Elizabeth B. Stone, Henry County Registrar	**WinVote Voting Machines** I am frustrated that some Localities did not take the advice of State Officials to disable the WinVote Wireless feature in 2006 and now the Department of Elections is considering decertifying them and could cost my Locality approximately $300,000. I realize the machines are old; however, there is a simple solution, but more work is involved!! Honest, fraud free elections should be top priority for all of us!! You have the authority to mandate that all WinVote machines be programmed to produce a single report of votes. Just disable the Wireless feature. I hope you do not mandate the replacement of these machines without providing the necessary funds to do so. Governor McAuliffe, the best Governor we have had in many years, saw a need for new voting equipment, and he certainly had the right idea when he felt that Virginia needs only one Voting Machine Vendor!! .
F. Kneisel	**WinVote system user** Used the Winvote system at the last election and it worked well. My wife and I both felt confident that our votes were accurately recorded. It was quick, logical and easy to use. We do not understand the eagerness on the part of the board to remove these machines and start the use of another type. If it isn't broken, then don't waste time and money trying to fix it. These machines, at least from this user's perspective, aren't broken. Thank you. F. Kneisel
Ruth Holtzman	**WIN System** The WIN system has worked well at our precinct and is simple for all to understand and use...even the computer illiterate generation. Unless there is a more elaborated electronic system to replace this one, I say say "Leave well enough alone!" Going back to paper, as some suggest, is going back in time, is antiquated and time inefficient. The WIN system may be aging, but still works well. Hackers in the electoral system have not proven to be a problem, but any system used can be compromised. I vote for leave the system intact!
Andrew Green, representing myself	**Electronic Voting Machines in General** We use a "scan-tron" type voting apparatus in our King George precinct. The voter marks a paper ballot with a marker and feeds the marked ballot under witness to the tally machine. It provides an electronic tally of votes cast but also (most importantly) retains the paper ballot used. I find the ballot set-up easy to understand and use as well as being unambiguous. If a voter commits an error, he/she can request a replacement ballot prior to casting their final official ballot (the ballot in error is destroyed). Votes can still be cast in the event of a power failure. Yes, all electronic machines can provide greater efficiencies but having a physical paper ballot as a last resort for accountability is an excellent hedge against any fault that may come with a software based apparatus. I feel having that paper ballot in a secure container provides a sense that my vote is there and ready to be counted in case the apparatus itself fails or comes into question. The beautiful thing about paper is that it requires physical access and alteration or destruction to become compromised, regardless if the apparatus itself fell into an error state or was compromised electronically. Not so with electronic machines not hardened against cyber-attack and come with a built-in vulnerability. It defies basic security precepts having a voting apparatus with wireless capability. The function of these machines is comparable to that of any critical infrastructure element in our society. They must have the ability to record and tally votes in a means above reproach. Having the

	ability to be remotely accessed automatically renders them suspect given the level of sophistication demonstrated by various cyber criminals to date. This vulnerability is a glaring red flag and a cause for grave concern. Just because something has not happened so far does not mean that something cannot happen. Absence of evidence is not evidence of absence of a vulnerability. How any community overlooked this aspect of their voting system is baffling. To me this represents a major failure of due diligence of the governing agency(ies) to properly assess and address all risk associated with a particular apparatus proposed for use. This is in addition to the other aspects of the system which are subject to compromise, disruption, or failure, such as the USB based flash memory. The question put before the SEB is whether or not we should be using this particular voting system, which is open to attack and compromise by virtue of its design. I think due diligence on behalf of the SEB requires them to assess the wireless capability as a grave vulnerability and decertify the system. I understand this would upset a good many folks and agencies, but as a voter I would want my state and local governments taking appropriate measures to ensure that the voting process is secure from deliberate or inadvertent compromise. Sunk cost is nothing compared to the integrity of the voting process.
Matt Prestone, City of Fairfax Officer of Election	**It ain't broke** With all due respect to the examiners who have been selectively checked a small fraction of the many Winvote machines that have faithfully counted the will of the Citizens of 20 some percent of the voters of our Commonweath for years prior to my first official experience with them 10 years ago (many more as a voter), I have found the system to be as a whole reliable and fairly easy to work with and to explain to the Public. It seems to me that having a dedicated and well trained staff - both professional and we poll workers is a large proportion of ensuring that the voting Public has a satisfactory experience on any Election Day , whether Primary or Presidential. Officer Training is primary to the folks in the Registrar's office in the City of Fairfax. As to the "new" system of paper ballots, I was very surprised to learn that because of the requirements of the Federal ADA the City and other jurisdictions will have to purchase WINVOTE type machine to fulfill it's requirements. If one system is troublesome a combination of two can only geometrically increase the complexity of elections for everyone concerned.
Arun Raj	**WinVote Machines** I have seen and used the machines and set them up as an officer of the elections. The platform worked with great reliability and was easy to explain to voters. According to the AP press report 0f 4/2/15, electoral board's hired testing lab reported, "the WinVote system's wireless capability makes it susceptible to a security breach. The investigator who was given access to a WinVote machine that was not used in a Spotsylvania County precinct was able to use his smartphone to connect to the wireless network hosted by the machine, according to the report." My questions are, 1. Why was the WinVote system broadcasting its wireless ID in the first place for hackers to connect to it? 2. Why was the investigator "given" access so he could breach the system? Was he also "given" Login information (user/pass) etc? 3. Why was the system broadcasting its ID so hackers can see and connect to? Seeing a network is not sufficient for successful hacking. A hacker will also use sniffing tools. In any event a lot of this can be mitigated by some some IT security controls. Platform change is a rather drastic step. Regards
Paul D'Addario	**WINVOTE CERTIFICATION** Thank you for the opportunity to comment on WINVote Certification. I have voted in Virginia since moving to the commonwealth in 1980. In my mid-30s, my eyesight declined to the level that I could no longer read the screens in the voting booth. I was unable to vote independently, much to my frustration. Over time technology was developed, eventually allowing me to vote independently in Arlington County, using the touch screen machine. With only one exception, I have had no problems. The one exception occurred in 2008 and I was able to replicate the problem at a later date before members of the Arlington election Board.

	However, I was told that this error would not likely be resolved and to my knowledge did not occur again. Whatever decision is made by the Virginia board of Elections requiring Arlington and other jurisdictions to purchase new voting equipment, the board should require that: 1. The voting equipment be certified as accessible to blind and low vision voters. 2. Workers at the polls on election or primary day be trained on the accessibility functions of the machines. Experience by me and other blind and low vision voters has shown that, even with the best of intentions, workers are sometimes unaware of the existence of accessibility features of voting machines, or are unaware of how the machines must be set for blind and low vision voters to have independent access to the machines. Although I am not speaking for the Old dominion council of the Blind and visually Impaired, the Virginia affiliate of the American council of the Blind, I have been a long time member and our members have worked with local election boards, especially in the Northern Virginia area, on issues related to accessible features of voting equipment. Our Northern Virginia chapter has been pleased to have representatives from the Fairfax and Arlington boards speak at past meetings and demonstrate equipment. In October, 2014, representatives of the Fairfax county election Board demonstrated the voting machine manufactured by ES&S, and allowed attendees the opportunity to practice using the machines. This was especially helpful to those who voted in Fairfax County in November. Members reported successfully voting, independently. Some voted for the first time with no assistance. It is a feeling that I can't express in words, but as someone who once could vote independently, then could not, I know first-hand how wonderful it feels when existing technology is properly implemented to improve lives. While I do not endorse this specific machine, or any specific machine, I do highlight the need for the Virginia Board of Elections to mandate that all local election boards in the Commonwealth be required TO purchase voting equipment THAT contains accessibility features guaranteeing blind and low vision voters their right to vote independently. I also offer to volunteer to test equipment being considered. Thank you. -Paul Paul D'Addario Arlington, VA
Gretchen M. Elson	**Keep WinVote Machines!** I have served as an Officer of Election for the City of Fairfax for more than fifteen years. My experience with the WinVote machines has always been positive. The machines enable people to vote clearly and quickly; and even people with no computer experience are able to vote with little or no help. I had the opportunity to witness the most recent statewide recount in both the City and County of Fairfax and what I saw was absolutely chilling and, in my humble view, a threat to democracy. While the recount for the City, admittedly a much smaller jurisdiction, was orderly and neat, the recount activity for the County was utter chaos, with court clerks rolling cart upon cart of scanned votes and dozens of people physically checking each card with coats and purses piled on the floor and on tables. Each of those examinations opened the possibility of damage, loss or miscount. The cross-check of WinVote machines ensures that every vote is counted in an accurate and orderly manner. Please listen to those of us who actually work with the machines on election day and allow them to continue to be used. Thank you for your consideration of my comments.
Renee B. Andrews	**Comments on DRE Study** The study seems to be a good beginning, but not a final conclusive one. The two problems verified are susceptibility of the WIN Vote's wireless capability and calibration issues affecting performance of two Accuvote TSX units. These findings point to the need for more study, but certainly not for decertification at this early time. As an interim measure, WIN Vote units in polling places with wireless networks should be used as individual units and have their wireless capability disabled. In addition, any other DRE units showing calibration issues severe enough to affect performance (as the two units in Virginia Beach showed) should be removed from service. These measures should still allow for proper

	administration of the primary elections in June. For the longer term, more study clearly is needed. The report concluded that all localities in question should "begin planning for the replacement of these systems." It is my understanding that all localities in Virginia are either in the process of replacing DREs or are planning for such replacement. It is unfortunate that the Governor's recommendation for state funding to offset the cost of new equipment was not enacted. Local governing bodies need to be made aware of the critical need for funding of equipment, and ELECT needs the proper funding to conduct the necessary studies and to support the localities in their acquisition and implementation of new equipment. I regret that I am unable to attend the meeting in person and appreciate having the opportunity to submit this written comment.
Alice Whealin	**Decertification of Win Vote voting machines in Virginia** Please get rid of these inaccurate machines once and for all!
Leslie O'Shaughnessy	**Secure the Vote/No More Funding for Win Vote Machines** We cannot continue to jeopardize voter confidentiality using machines that will never be hack-resistant, and that do not give us the ability to recount votes accurately, if needed. We must stop flushing hard-earned state treasury funds down the toilet for voting machines.
Carol Klein	**Electronic Voting WinVote** Virgina should move to reliable precinct based optical scan machines. Optical scan machines allow the results of the scan to be confirmed by recounting the paper ballots. Paper ballots also sped the electronic process because the number of voters is not limited to the number of electronic voting machines. Rather, the number of "voting booths" may be expanded inexpensively by expanding the number of privacy screens. A number of studies have confirmed that electronic voting machines are hackable. It is difficult to prove or disprove hacking during an actual election, but the risk exists and could be avoided by changing to precinct based optical scan machines.
bret hillard	**Electronic voting machines** Any machine expected to record votes made by legal residents must be secure from tampering whether it be physical or electronic tampering, and there must be a paper record available for recount audit. This is not the case in Norfolk. There are no paper records on the Diebolds. And they run on Windows CE which is easily hacked from what I've read. I'm sure you have read about the wireless vulnerability of the Winvote machines too. My personal assessment post Snowden, GET RID OF THESE MACHINES as soon as possible and make our Registrars work for a living like they used to with paper ballots.
Stevens R. Miller	**Keep the Paper** I was a party observer during the recount of votes for Attorney General in Fairfax county in 2013. That was a close election and the outcome did reflect the effect of the recount. Without physical, paper ballots, that would have been impossible. Electronic machines are a needless complicating factor introduced into a process that already works, and has none of the reliability nor security issues that computerized equipment always has. In particular, as convenient as wireless connection might seem, there is absolutely no inherent reason why a voting machine must, or even should, communicate with anything by radio. Polling places never need more than a few machines of any kind. Examining them individually takes minimal effort and requires less complex technology. If we must replace paper with electrons (and I say we shouldn't even be doing that), adding any kind of wireless feature to that process is an absurd and pointless undertaking of risk. Please keep the paper, and dump the computer.
Ivy Main	**The security of the vote is paramount** We have known for many years that the DRE machines don't provide the level of security needed to ensure votes are not changed or lost, accidentally or maliciously. They give the appearance of secure, advanced technology, but not the reality. The latest incidents and this review confirm that it is time to retire these old machines. Paper ballots with scanners are simple to use, more secure, and practically emilinate long lines to use the machines.
William Penniman	**Voting machines** It is time to do away with electronic voting machines (such as WinVote) and shift entirely to optical scan machines. I have observed numerous elections, including the after-closing counting and an election recount, The optical scan machines have been reliable and provide a critical paper trail. They are also easy to use. In my experience, some voters used the electronic machines out of habit in recent elections, but, given the choice, most voters used the optical scan machines. I heard no complaints about them. They have the advantage of being faster to use because more voters can complete ballots at the same time, without being limited by slow individuals in a limited number of electronic booths. Scanners have to be cheaper than electronic machines, as well. Most importantly, the optical scan machines are reportedly less subject to error and manipulation.

	Accuracy is critical.
Tammy Belinsky, on behalf of EB and General Registrar for Floyd County	**WinVote Status** The following comments are submitted on behalf of the Electoral Board and General Registrar for the County of Floyd. We request that our comments be considered in the deliberations. Amy Ingram, General Registrar, will be in attendance at the public hearing. If the primary concern in regard to WinVote reliability is the security of the machines from wireless access, then the solution is to disengage the wireless feature. The wireless feature is used to collate the election results from all machines onto the master machine. The wireless feature is not necessary to the conduct of an election – it merely makes it easier to tabulate results. **Turn off the wireless feature and manually calculate the results from each machine, and the security concern is solved.** Officer training and the response capacity of Electoral Board members are also important factors in machine performance. The manner in which problems are addressed can impact voter confidence just as the status of the machine can. We are not surprised that a competing wireless system may have interfered with WinVote operations. We experienced a wireless failure upon setting up machines in one precinct where communications systems are present that we suspect may cause wireless interference -- but the machines were otherwise functional. Our machines operated normally during the election process, and we thought we would be manually tabulating at the close of the election, but in the end the wireless functionality became responsive. We believe that the knowledge and skills of the equipment operators are fundamental to troubleshooting and the successful operation of the system. Our understanding is that the testing performed to support the decertification threat was performed without changing the wireless setting, and without much, if any, WinVote-operational expertise. Voter confidence also can be impacted by an ill-planned equipment change. We will not be conducting a primary in Floyd, and cannot imagine being thrust into the position of the localities that must find an alternative means to conduct an election in less than two months. Some of our WinVote machines are showing signs of aging electronics, and we are working with our local government to fund the purchase of new voting equipment. Our locality is in the process of securing a loan for capital improvements generally, and it's a hard pill to swallow. In the 2013 general election, one of our board members went to another locality on Election Day and observed the use of optical scan machines. He observed the use of hand-cast optical scan ballots and tabulation problems that were caused by the manner in which the ballots were marked by hand. We learned that hand-cast optical scan ballots have their own set of problems. Instead of using a system of hand-cast optical scan ballots, we want to replace our WinVotes with machines that provide touch screen casting and printing of an optical scan ballots. Most importantly, our voters have become accustomed to voting on touch screen machines. The company called Democracy Live is on the cutting edge of such technology, and an affordable price. However, the Democracy Live systems are not yet certified. Floyd County objects to having limited choices, or being in a position of buying equipment that will not be preferred in the long run. There can never be confidence in a system acquired against our interests. If there is a lack of buy-in, the system will be sour from the start.
Charlene Bickford, Chairman, for the Arlington County Electoral Board/Staff	**Agency's handling of this issue deeply troubling** The Arlington Electoral Board objects to the very public manner in which this issue was announced. No prior warning was given to either local election offices or localities, and now we have been placed in an intenable position. The Commissioner further states that the agency was unaware of vulnerabilities with the WINvote machines prior to late February. This is simply not true. Issues regarding the wireless function were known and discussed in depth by the State Board of Elections in 2007, in conjunction with localities and the system's vendor: "...the system's design, programming, and security protocols directs the machines to only communicate with other WINvote machines. I believe it is important to point out that upon programming these systems prior to an election, the system generates an 'encryption key' that only machines located in the same polling place, programmed with the same 'key,' could communicate with each other when operated by an election official with the appropriate access card and password. I have sought legal advice to ensure that using the WINvote equipment is ineed in keeping with the law and have received those assurances." - statement by Nancy Rodriques, Secretary, State Board of Elections, at SBE meeting on September 6, 2007 "WINvote equipment with wireless functionality may be used as prescribed and in compliance with security measures as contained in the United States Election Assistance Commission's *Management Guide for Voting System Security*." - From a resolution adopted by the Virginia State Board of Elections, October 17, 2007 The agency has not provided evidence that they WINvote machines used in Virginia have been used in a manner inconsistent with approved security measures. The handling and timing of this issue is an insult to the dedicated local election officials who work hard ensure the integrity of Virginia's election.

James Hull	**WinVote Direct Recording Electronic Voting Machines** Mr. McClees: In regards to comments made by Virginia Commissioner of Elections, Edgardo Cortés, in his 1 April 2015 message titled, "Re: Interim Report on Voting Equipment Performance, Usage & Certification," I would like to provide some informed input. I provide this input based upon review of the materials provided by the Virginia Department of Elections, review of materials found on the Internet, and reliance upon my background in computer network system analysis, cyber vulnerability analysis, and technical analysis regarding cyber threats. I will not address the "alignment" or "calibration" issues best described as operator error or manufacturing deficiencies in the Commonwealth of Virginia's "2014 November Election Voting Equipment Voting Report." I will, instead, focus my comments on the most impactful aspect of cyber vulnerabilities that could affect election results. My conclusions parallel those found in the 30 March 2015 message from Matthew Davis, Chief Information Officer, in his report titled, "AVS WinVote Voting Equipment Security Concerns." The fundamental exposure presented by the WinVote Direct Recording Electronic (DRE) voting equipment stems from the fact that computer technology evolves faster than human bureaucracy can mitigate its ill effects. The speed of this technological evolution has been captured in a well-understood maxim called Moore's Law. The Wikipedia entry for Moore's Law states, "… over the history of computing hardware, the number of transistors in a dense integrated circuit has doubled approximately every two years." This has resulted in a doubling of digital capabilities whether that is the case for beneficial medical devices or destructive cyber malware. • Wikipedia link to Moore's Law The Findings section of the Department of Elections report titled, "Interim Report on Voting Equipment Performance, Usage, & Certification" highlight that the most vulnerable aspect of the WinVote DRE system is its wireless communications capability. Simply put, cyber security experts generally agree that there is no enduring security with any wireless system given the escalation of technological capabilities to intercept signals and that wireless systems provide the most critical aspect for any cyber attack: a venue for access. Scenarios for this kind of attack include, but would not be limited to, attacks launched from a vehicle parked in the parking lot proximate to any polling station and attacks launched from handheld devices within the polling station. The description within Paragraphs 3 and 4 on Page 2 of that report illustrates the capabilities of even inadvertent and spurious wireless signals from "smart phone" devices. The report's Findings are myopic, however, since they incorrectly attribute the WinVote DRE machines as the important vulnerability and not in the centralized vote-collecting machine that communicates with all "endpoint" WinVote DRE machines at the polling station. A determined and disciplined cyber attacker will focus on the centralized and wirelessly-connected vote-collecting machine in order to achieve maximum impact for manipulating the outcome of the election or delegitimizing the entire election process. Only a few incidents where the centralized WinVote database for the polling stations were deliberately deleted or corrupted would be required in order to create an immediate and wide-scale backlash from the voting public. My recommendation is to not only immediately eliminate the use of WinVote DRE machines for any future elections but to also embargo any and all wireless technologies for use by any voting system. The vulnerability that wireless technology presents is too great given the constant exposure that malevolent technological evolution will continue to present. Very respectfully, James Hull King George, Virginia
Julie Emery, Virginia Civic Engagement Table	**Integrity of Our Vote is Essential** There is nothing more fundamental to our democracy than the right to vote. And people must believe that the system they use to vote is accurate, fair and can not be tampered with. A voting machine that causes potential voters to question the integrity of the process is a machine that hurts people's belief in free and fair elections and, ultimately, in the functioning of our democracy. I know there is a cost associated with replacing these machines and that this may be a hardship for some localities. However, that hardship pales in comparison to the cost of people losing faith in our democracy. I would also add that my understanding is that these machines use 16-bit encryption, a standard that no one responsible for protecting important, sensitive data would ever use. It is extremely vulnerable to hackers. Please de-certify these machines so that they can be replaced immediately.

Pamela Harms	**Verify our Vote** As a Virginia voter who is very concerned about the direction our country is taking, I am writing to you to request that you decertify the Win Voting equipment. Due to its wireless communication capability, it is vulnerable to hacking, and it is not verifiable without the ability to count or audit it. Several years ago, I worked at a voting location in my county and I was so overwhelmed by the number of people who take their voting responsibility so seriously. They stood in long lines in the rain just to vote: the Winvoting system makes a mockery of their patriotism. Please decertify Win Voting
Rachel Tellis	**My Voting Rights** The Election Board of Virginia has a fudiciary duty to ensure that all voting machines that are purchased on behalf of the citizens of the Commonwealth of Virginia may cast their ballots and a guarantee for that ballot to be counted. Anything short of accomplishing that goal is an absolute failure and therefore, the act must not tolerated!
Nicholas J Gimbrone	**paper ballots only please!** You must decertify the WinVote system decertified because it cannot be recounted or audited, and it cannot be made secure.
Nancy E. Tingen, City of Fairfax Deputy Registrar	**WinVote Voting Equipment** I am writing to express my strong displeasure with the Department of Elections proposal to decertify Winvote voting equipment. The reports prepared by the Department of Elections and Pro V&V includes no factual evidence of vulnerabilities and is based on pure conjecture. Decertification would set the precedent for similar ill-considered actions to happen anywhere, anytime, for any reason. There is nothing keeping the Department of Elections from creating another subjective report a year from now to arbitrarily decertify another type of voting equipment - a fiscal burden that Virginia counties and cities cannot afford. The use of subjective language in the interim report and Pro V&V report is an attempt to undermine the electorate's faith in the electoral process and institute a costly and unnecessary unfunded mandate. During the 2015 legislative session, the General Assembly Senate Finance Committee unanimously voted (14-0) against SB827 which would have banned the use of all types of DREs after July 1, 2016. Legislators are elected by Commonwealth voters and speak on behalf of the individuals who voted them into office. The Department of Elections should not have the power to override the will of the people. I implore the Virginia State Board of Elections not to approve decertification of the WINVOTE system. If a wireless vulnerability can be substantiated with actual evidence (which has yet to be provided to the elections community and the general public), a good compromise would be to simply prohibit localities from enabling the wireless capability on the device. Respectfully submitted, Nancy E. Tingen, City of Fairfax Deputy Registrar
Terry Phillips	**Paper Ballots Only** When we used paper ballots that were marked with a pen or pencil there was no denying what the voter intended to vote for. Paper punch (chads like the Florida fiasco) and electronic ballots like used in Virginia's last election has created way to many questionable ballots which resulted in time comsuming legal challenges. Progress and new technology may be good in the majority of circumstances but I don' see where technology has improved the voting process. Voters who take time to vote expect their ballet to be counted and counted correctly with any court challenges...PAPER BALLOTS ony PLEASE.
Anna Scholl, ProgressVA	**WinVote Machines** The Pro V&V report and ELECT's investigation raise very serious questions about the security of WinVote machines. Quite simply, election security is of paramount concern and we urge the Board to consider decommissioning these machines. We can't wait for a catastrophic problem to occur. The WinVote machines are insecure and adversely affect the ability of every eligible Virginia voter to know his or her vote will be counted. While we understand decommissioning these machines may raise financial questions for the localities where they are in use, the threat to election security should override these concerns. The WinVote machines are over a decade old and in that time technology has advanced. In fact, the manufacturer has since gone out of business and no longer provides software updates. We understand Virginia is the only state still utilizing WinVote machines, we assume due to their outdated technology and the tendency of the machines to malfunction and break down as they age. We appreciate the Board taking the time to consider the repercussions of both continued use and decommissioning the WinVote machines and the opportunity for public comment. We strongly urge the Board to move to immediately decommission these machines to protect the integrity of our elections and ensure they remain free, fair, and accessible.
MARGUERITE MCCAUSLAND	**NEW VOTING MACHINES** I DO NOT BELEIEVE WE NEED NEW VOTING MACHIHINES AT THIS TIME.STAY WITH OLD NEW MACHINES WILL CAUSE MORE MISTAKES AND MORE INSTABILITY. I FIND THIS HIGHLY SUSPICIOUS YOU ARE THINKING OF THIS AT THIS

	TIME WHEN OBAMA IS TRYING TO STEAL VOTES FOR 2016;
MARGUERITE MCCAUSLAND	**STAAY WITH OLD MACHINES** THIS IS NOT TIME TO CHANGE AS IT TAKES A LEANING CURVE AND CAUSE MORE MISTAKES. WE ARRE HAVING ENOUGH TROUBLE WITH OBAMA STEALING VOTES FOR ILLEGALS IN 2016 DON'T ADD TO PROBLEM
Georgia Perron	**Please de-certify WinVote voting system** I am in favor of de-certifying the WinVote voting system for several reasons. It does not create a paper trail that can allow a recount or audit. Also, I do not trust a voting system that includes a wireless capability. We all know that even major companies with large security teams and state of the art security software are vulnerable to hacking by both domestic and foreign entities. I therefore cannot trust a system that is available to entities who are not physically present at its keyboard (as would be a voter or voting official). Please de-certify WinVote. The integrity of our elections is more important than the convenience or ease of vote counting.
Georgette Lasorso	**Paper ballots without perforations needed** Anything electronic can be manipulated. Use paper without perforations, no more *hanging chad* incidents. All Voter Agencies MUST keep updated voter registration lists - removing deceased & voters no longer in the area.
Thomas Carothers	**Winvote** I want the WinVote system decertified because it cannot be recounted or audited, and it cannot be made secure. Sincerely, T Carothers
Courtney Mills, Fair Elections Legal Network	**WinVote Machine Vulnerabilities** The release of Pro V & V's report on the vulnerabilities of WinVote machines raises many serious questions about the security of the vote in Virginia. In light of the importance of elections and confidence in elections, the Fair Elections Legal Network applauds the decision of the Board of Elections to collect public comment and consider decertification of the machines in question. Numerous laws have been passed in the General Assembly since 2011 in order to increase confidence and decrease the chance of fraud in our elections. The effort to cut down on supposed "voter fraud" included the removal of the certification of ID affidavit, the requirement of an ID to vote with over $1 million of state funds being spent to mail voter registration cards for use as ID, and immediately rendering those IDs invalid as the General Assembly passed a photo ID standard which was implemented in 2014 following robust debate. The General Assembly has clearly taken the position that it is worth investing in the integrity of elections. The SBE should consider immediately decertifying the WinVote machines in light of the commitment of the state to conducting fraud free elections and the proven vulnerability of these machines. The lack of proof that any elections have been affected by the machine vulnerabilities uncovered in the recent examinations should not change this assessment. Our elections are far too important to sit and wait for an election to be altered before taking action to remove any weak links. We understand that many localities would be impacted if WinVote machines are decertified but believe that free and fair elections are far too important to sacrifice for the sake of inconvenience. The SBE should consider working with registrars to ensure enough machines are available for 2015 and work with the General Assembly to fund sufficient replacements for counties for 2016. The SBE should also establish mandatory reporting standards to ensure that any possible system wide vulnerabilities, such as those discovered in the WinVote system, are uncovered and addressed quickly. Unfortunately, WinVote is no longer in business and cannot upgrade their system, but others may be able to in the future. The security of elections in Virginia should not be dependent on chance reviews.
Allen Meek	**DeCertify Win Vote** Without a paper trail, how can we be sure the Win Vote system is reliable and accurate? Anyone with a lap top knows,that even with no outside malicious intent, computers will do some strange things! De-Certify the Win Vote system.
Erik Johnston, Virginia Association of Counties	**Consider past experiences of localities and their proposed technical fixes** Dear Chairman Alcorn, Vice Chair Wheeler and Secretary McAllister: I am writing on behalf of the Virginia Association of Counties (VACo). The proposed decertification of the WINVote machines will impact the election process in 25 of our Commonwealth's 95 counties. VACo urges the Board of Elections to not rush to decertify these machines. Rather we ask you to work with the impacted localities, their General Registrars and their Electoral Boards to

	consider past experiences with these machines and their proposed technical fixes. Banning the use of WINVote machines will be a significant unfunded mandate for many localities and the short timeline of such a potential decision will leave many with no budgeted funding to implement a change. It may also lead to a rushed procurement decision that is not in the long term interest of the electoral process of some localities. Most importantly, banning these machines with very little time left before the June 9 primary may end up being a threat to the integrity of the electoral process in some localities. VACo urges you to maintain certification of WinVote machines and to direct the Department of Elections to work with localities and election officials to implement and test proposed technical fixes to the current machines. Sincerely, Erik Johnston VACo Director of Government Affairs
Monica Epstein	**Decertify WinVote machines** I urge you to decertify the WinVote electronic voting machines because 1) they are a security risk and 2) no one is available to repair them if they break.
Bg Kenley	**paperless voting machine** All voting machines in Virginia should have a paper trail. The ability to do a recount is necessary if there is any doubt as to who the winner is. The voters must have faith in our election system. Our elected officials must slso know that the people support their leadership. Get rid of the touch screen, paperles voting machines!
Tram Nguyen, New Virginia Majority	**Election integrity** For years, old and malfunctioning equipment have contributed to a wide range of Election Day problems - from polling places opening late, which have resulted in long lines, to alleged vote switches due to miscalibration. In light of the widespread problems reported in the November 2014 elections, New Virginia Majority applauds the State Board of Elections and the Department of Elections for conducting a review and audit of the aging voting equipment, and we commend the State Board of Elections and the Department of Elections for your deliberate and transparent approach to evaluating the machines in question. The report released last week from Pro V & V highlight troubling vulnerabilities in certain makes and models of DRE machines in use in Virginia, specifically the WinVote machines. Although the report that was released was not comprehensive, what is included in the report is sufficient to raise serious concerns about the security of the vote in Virginia. While there is currently no evidence that the security of the past elections has been compromised by malicious actors, the reported vulnerabilities demonstrate how easy a target these machines can be in the future. As citizens, we deserve to have the utmost confidence in our elections. When voters cannot trust that their ballot is secure, trust in our democracy is undermined. We urge the SBE to consider the immediate decertification of these machines. We understand that taking these machines out of commission can be difficult and expensive for localities, especially given this year's elections. However, Virginia has elections every year; arguably, there is no convenient time to decertify equipment that is used by numerous localities across the Commonwealth. However, continuing to rely on outdated and insecure technology undermines our democracy and we must take proactive steps before a larger problem emerges. We also hope that the SBE will conduct a more comprehensive review of all of the voting equipment used across the Commonwealth. This would require that all localities provide sufficient and timely reports to the SBE and the Department of Elections. Under §24.2-103, the State Board of Elections has the authority to require electoral boards and registrars to provide information requested by the State Board. We urge the SBE to move forward with establishing minimum reporting standards so that so that the SBE and the agency can evaluate how elections are administered in Virginia in order to adequately address any vulnerabilities as well as unnecessary barriers to voting. We look forward to working with you and localities to ensure a smooth transition away from the WinVote machines as soon as possible, and we commit to renewing our efforts to secure sufficient funding from the General Assembly in order to make sure that Virginia's elections meet the highest of standards.
Patrick P. Murphy	**Only one way to secure vote integrity** If the Commonwealth of Virginia is to take the mandate to protect voting integrity seriously, there is only one clear answer that reduces cyber security risk by orders of magnitude. That solution is to follow the example of countries like Ireland, where the paper ballot is used in place of electronic voting machines. A proper and neutral (not corporate) risk analysis will back this assertion up. It is far more secure, more auditable, and engenders a startlingly larger increase in voter trust than any electronic apparatus. The population of Ireland is, granted, around half that of Virginia; but if they can make it work, that belies any arguments that would claim a paper ballot for everyone would not work in Virginia.

Therese Martin	**WinVote (DRE) voting equipment - don't take a chance** I find it hard to believe that some jurisdictions have never had problems with the WinVote DRE machines. But I find it even harder to understand why they seem to be anxious to play a game of chance with their voters by continuing to advocate their use long after other jurisdictions have reported problems – now verified by an independent report. Although I hated to give up my home computer with Windows XP, the technology used by the WinVote machines, I became convinced of the need by several anguishing incidents. I didn't have thousands of voters depending on me to make the right decision. I am lucky to live in Fairfax County which supported the purchase of new digital scan equipment that went into use at the 2014 elections. This enabled the County to get a head start on its preparations for the many state and local elections this fall and the 2016 presidential election. As a precinct election officer, I also appreciated having the new voting machines. All Virginia voters have a right to believe that when they go to the polls to vote, the equipment will be working and their vote will be counted. We should be thankful that the State Board of Elections and Department of Elections are taking their responsibilities in this regard seriously..
Donna Holt	**Paper Ballots Only Please** Paper ballots are the most secure way of verifying the vote. There have been far too many irregularities with the use of voting machines. I have personally experienced a change that occurred when I selected one candidate and another came up as selected and it took me 4 attempts before my chosen candidate entered correctly. Had I not noticed, my vote would have recorded incorrectly.
Peter Birk	**Only paper can be verified** I have a degree in physics and hold a General Radio Telephone License from the FCC. There is no secure electronic or wireless form of vote recording. Quantum mechanics prevents the renacting the vote once it is cast electronically. I would respond to those in this list supporting WinVote stating there have been no irregularites in their districts. First the vulnerability of electronic voting has been demonstrated unequivocally. Second is exactly the point that they would never know if any irregularity did occur without paper records.
Tom Gutnick	**Need trustworthy technology** As somebody who has worked in information technology and information security for over three decades, I continue to be concerned about the voting technology in use in Virginia. Notwithstanding the claims made by suppliers of voting technology, good technology is difficult! The only acceptable technology should be something that allows for a verifiable recount -- paper ballots. Let's not be so enamored of new technology that we lose sight of what will really work and what will protect the rights of all citizens.
Mary Jo Fields, Virginia Municipal League	**voting machines** The Virginia Municipal League supports the points made by registrars from a number of affected localities across the state in response to the study of DREs recently completed by the Department of Elections, the lack of notification of localities affected by the study prior to its release, and the failure to involve the manufacturer or affected localities in the conduct of the study. VML opposes the decertification of the WinVote equipment at this time. The Board does not have complete information to take such action. Requiring localities to undertake the purchase of new voting equipment will throw local budgets in disarray in all but a few of the localities with WinVote equipment. There is no reason for the Board to act so precipitously in requiring cities and counties to make these major expenditures in the waning months of the current fiscal year and at the time of the budget calendar when most localities are well on the way to completing their budgets for the upcoming fiscal year. Should the Board vote to decertify, it should pay for the equipment that will be required. The State has ample authority to take this action under the authority granted the Director of the Department of Planning and Budget under § 4-1.03 c.5 in the Appropriation Act. Further, Item 468 D. 1. and 2. sets aside funding to be used by the Governor for conditions arising under § 4-1.03 and to provide for unbudgeted and unavoidable increases in costs to state agencies for essential commodities and services which cannot be absorbed within agency appropriations. Following the adoption of the Help America Vote Act, localities purchased voting equipment through the State Board of Elections contract. The equipment that the Board is now proposing to decertify was on that list. If the State says that the equipment that it certified is now deserving of decertification, the State should certainly take steps to pay for the equipment.
Carl Landwehr	**Aging and vulnerable computerized voting systems need a replacement plan** As a program officer at the National Science Foundation, I sponsored academic research into the design and implementation of electronic voting systems. I have also served as an election official in Fairfax County. I was glad to see the new scan vote system replacing the WinVote system, even though a few voters preferred the interface on the WinVote system. Although the WinVote system seems to have been reliable in many precincts, the key phrase is "seems to have been". The difficulty with all of the computer-based voting systems that lack a paper back-up is that there is a great deal of complex software between the touchscreen and the counting of the vote and that software, even though it may appear reliable, is very likely to have exploitable security flaws. The WinVote system is now also in the category of aging computer-based systems for which continuing support will be difficult and increasingly expensive to obtain. It would be a good idea to initiate a plan for replacing this system statewide with a system that provides a recountable paper back up. The paper backup provides the ultimate defense against faulty hardware and software. An additional benefit of the scan vote system is that it helps eliminate long lines at the polls. Instead of requiring all voters to sequence through a limited number of computerized voting stations, all that's needed to have an additional voting station is a table and chair, a pencil, and a cardboard privacy screen.

Bryant Cochran	**WinVote voting machines** The WinVote voting machines need to be decertified. They are unreliable. Anything that can keep my vote from being as valuable as another person's vote is a civil rights violation. With technology that is currently available, why can't we be issued a confirmation slip when we vote with a transaction number that we can use to go online and make sure that our vote was not changed?
League of Women Voters of Virginia	**WinVote Election Intergrity** The reported vulnerabilities of the WinVote Direct Recording Devices (DRE), are very troubling for the citizens of the Commonwealth. But this is not all "new news." We read about the problems some locales had during the 2014 elections and have been concerned for several years with the thought that Virginia counties and cities were continuing to use machines with old technology, increasing failure rates, and no way to get them repaired and "election ready." After the 2012 election, the bipartisan *Presidential Commission on Election Administration* (PCEA) issued a report. They recommended "standard setting and certification process for voting machines must be reformed" and "audits of voting equipment must be conducted after each election, as part of a comprehensive audit program, and data concerning machine performance must be publicly disclosed in a common data format". In 2014, Virginia had systems fail in a few jurisdictions. Now three years after the PCEA report we have a study reporting security problems. The company issuing the report is a reputable, independent third party. The writing was on the wall. The League of Women Voters position supports "voting systems that are secure, accurate, re-countable, accessible, and provide a voter verifiable paper trail." The WinVote system does not adhere to this. A 2007 Virginia law stopped the purchase of this type of equipment on the premise that jurisdictions would replace them as the equipment failed. That time has come. Some jurisdictions argue this point. Some of these machines may be at least 12 years old, many bought around 2002 with HAVA money; they use old technology. Does your 12 year old computer work optimally now? In just the last five years we have seen an explosion of technological advances unimagined in 2002. WinVote equipment runs on Window XP, software that Microsoft no longer supports. Today's smart phones are probably more powerful than this technology – on which we base the most important element of our democracy. With incidents of hacking ever present in the news, we would be foolish to ignore the information before us. With our recent history of close elections in Virginia, we need to have votes to actually count during the recounts. The Virginia League of Women Voters also has positions that support the role of the State Board of Elections in exercising oversight and enforcing mandatory standards for elections management. It is their responsibility to certify election equipment. Knowing of the condition of the WinVote machines and the results of the study, why would anyone suggest that they not do something about the situation? Wouldn't this be neglecting its responsibility? Yes, it will cost money to replace these machines; everything does. The General Assembly chose not to support bond funding for new equipment, which was unfortunate. Some local jurisdictions planned for the future and set aside funding for new equipment; others have not, but it does not release them from the responsibility of administering elections with the integrity voters expect and should demand. There is never a good time to change equipment; change is disruptive but it must happen. Virginia has elections every year--sometimes multiple elections annually. We have elections statewide this fall and will be a swing state in the 2016 presidential election. We need to do what is necessary to prevent any system failure that taints our election integrity.
Tamera Dickerson	**Voting Machines** I would like to see Virginia, actually the whole country, go back to paper ballots. I don't trust the voting machines in that they are computers which can be hacked and have the results changed. They can have programs that change votes and lots of other flaws. When we had paper ballots, it was a lot more honest, so I would like see the honesty put back. When Obama got 110% of the vote in one presinct, and not one other person got a single vote ... I am going to have to go with somebody cheated. I am tired of our politicians cheating. With paper votes there is accountability.
Sarah Birk	**Paper ballots, we need the ability to confirm authenticity.** I prefer the paper ballot, it is the only truely verifiable account.
Olga Hernandez (Election Officer 30 years)	**WinVote technology need to be replaced** The report regarding the WinVote equipment is the latest warning that more concerns are ahead. Changing to a new voting system is never easy and will take funding, By dealing with this now, we can prevent future problems that will only get worse. This equipment uses OLD techonolgy, Windows XP, which is no longer supported. These computers are breaking down. The security vulnerbility should scare us, especially with all the news about hacking and loss of information. Most people don't wait for their car to totally break to replace it. Localities that did not plan for the replacement have only themselves to blame for the disruption, but it is no excuse for doing nothing. We have had several very close elections in Virginia, WinVote does not provide a recountable receipt. Yes, the tapes can be re-run but that is not tha same a having each ballot examined. Confidence in the system is of the upmost importance, this is not about the convenience of the status quo, its about knowing that our votes are properly tabulated.
Kevin Linehan Certified Elections Administator	**Decide based on facts not emotions**

	Hopefully the State Board of Elections has the wisdom to see this effort to decertify voting equipment based on published bogus "research" is a serious affront to the integrity and reputation of the elections community and the citizens of the Commonwealth. The April Fool's day press release was nothing less than a reckless and shameful attempt to cast dispersions on Virginia Elections and for what gain? Is it possible that this is really all about a personal vendetta? Can one person singlehandedly destroy the hard work of thousands of Virginian sworn to uphold the integrity of elections in Virginia? What is driving this rush to judgement? The published reports lead one to believe they are nothing more than an attempt at a reason to support a predetermined conclusion. The reports appear to have begun with a conclusion and the report was created to support it. Touch screen voting equipment does a better job of capturing the voter intent than any paper based voting system. Not only is going to paper based voting a giant step backward technologically, more importantly it a giant step away from accurate elections. The optical scan ballot voter's intent is obfuscated by read errors and mismarked ballots by a range of 0.5% and higher. The so called advantage of a paper trail is notoriously fraught with errors with up to a 5% error rate with hand counted paper ballots. The Department of Elections is asking the SBE to trade in an accurate and reliable system for something much less so. Is this about honest and accurate elections, or is this train wreck about some other agenda? Optical scan and digital scan voting systems use computer technology to tally the votes. This is the same type of computing that conspiracy theorists have used to condemn touch screen voting equipment. All of the conspiracy theories that apply to touch screen equally apply to optical scan. The idea that optical scan provides a paper back-up is negated by the fact that recount judges have always demanded the ballots merely be re-run through the computer one more time and have totally ignored the notoriously unreliable hand count approach. I implore the State Board of Elections to choose to faithfully and **impartially** discharge all the duties incumbent them to do what is right for the citizens of the Commonwealth and prevent the Department of Elections from impugning the reputation of elections in Virginia.
Margaret Copernoll, no organization	**WinVote System** The WinVote system should be decertified because its votes can't be recounted or verified or made secure. The voters of Virginia deserve an honest system.
Carolyn Caywood	**Don't wait for a catastrophy** As a librarian, for over 30 years I've used computers to track book circulation and I've learned how foolish it is to hang on to equipment till it fails. When the computer fails to register that a book was returned, we have back up ways of finding it. But there's no back up to aging voting equipment. Voters must have confidence that their vote will not be lost. The integrity of the vote is the foundation on which the legitimacy of government rests. Don't put it at risk by failing to replace outdated equipment with new machines that provide a paper trail.
David Andrews, Chief Election Officer	**DECERTIFY WINVote equipment NOW, not later** WINVote is no longer an acceptable voting system for the Commonwealth of Virginia, and the Virginia State Board of Elections should act to decertify its use as soon as possible, as well as the use of other DRE equipment used in the Commonwealth. The General Assembly has long made clear its intent that DRE equipment should be phased out, with § 24.2-626 of the Code of Virginia expressly prohibiting the purchase of new DRE equipment by localities, and existing equipment can only be used "for the remainder of their useful life." The General Assembly left in House P&E this year HB 2142, which would have prohibited the use of DRE equipment except as accessible equipment after July 1, 2016, and while the GA did not take action, the State Board should do what P&E did not. WINVote voting equipment, along with almost all other DRE machines used in the Commonwealth use obsolete technology, based on Windows CME or XP platforms, both of which are no longer supported. Numerous localities have experienced improper pre-election screen calibration procedures, which have resulted in voters posting cell phone videos of votes "registering for the wrong candidate" (OK, Officers of Election should have stopped the cell phone use, but….) It is clear that localities do not have the ability to ensure that the existing DRE equipment can be maintained to the standards that they were intended. Numerous DRE localities experienced EXTENSIVE voting delays in the 2012 presidential election, with Prince William having precincts not closing until almost 11 PM. Unfortunately, on heavy voter turnout elections, with longer ballots, delays are inevitable as voters go through "multiple pages" or screens, before "casting" their ballot. As many town and municipal elections have moved from a May to November election cycle, this means that the November ballots will only become longer. Here in Spotsylvania County, which is one of the localities using WINVote DRE equipment, my wife experienced a wait of over 2 hours to cast her vote in 2012. (As a Chief Election Officer in a neighboring locality, I vote absentee.) The State Board needs to act NOW to decertify these machines so that localities can purchase Optical Scan equipment that better serves the needs of Virginia citizens. With Optical Scan voting machines, there only need to be ONE tabulator per Precinct, and the Precinct can be set up with as many cardboard "privacy booths" as necessary to handle voter turnout. I have worked as the Chief Officer in a Precinct the last 5 years using optical scan equipment, and even with a line going out the door, a voter moves through the line in 15 minutes or less. In 5 years, our Precinct has tabulated SORs, reported results, taken everything down and been on our way home no later than 7:45 PM. In case of the need for a recount, the actual ballots the voter used are available to be re-tabulated on another machine, or hand counted. In case of an error by the voter (over vote) on the ballot, the tabulator rejects the ballot. People may like technology and convenience with electronic devices, but they also are aware of the potential for computerized equipment to be "hacked". "Perception", even if not based in fact, becomes "reality", and voters will distrust election results from DRE equipment.

	Optical Scan equipment is more secure, is faster for voter to use, and is trusted more by voters. Keep DREs if necessary (1 per precinct) for accessibility, or use Auto-Mark equipment to ensure that the voter who uses accessible equipment is guaranteed a private ballot. Because if only one voter uses the "accessible" equipment, then their votes are known.
Mary Ann Merritt	**Return to paper ballots** The paper ballots are FAR LESS SUSCEPTIBLE to fraud. The electronic system can be compromised and hacked. I have heard testimonies in court (on video) from the State of Florida asserting this. Virginia, as well as our nation, would take a step in the direction of integrity in electing leaders with a return to paper ballots.
Timothy Kendall, writing as an individual	**Voting machines producing no hard copy are unacceptable** **Electronic voting machines which do not produce (or rely for input on) hard copies of individual votes are unacceptable**. They cannot be audited or error-checked, they define recounts out of existence, and they are susceptible to hardware failure, software error or failure, outright programming fraud, and/or "cyber-attacks", no results of which could be corrected even should error, fraud, or tampering be detected. No sane person would entrust $10 in savings to a bank whose systems could not be error-checked or audited; the right to cast a reliable ballot is the most important political right we have, and must be afforded safeguards accordingly. No government priority can possibly trump this one, if the country is to remain free. **No voting machine should be certified unless it either produces a hard copy for the voter to use for verification and for use in possible recounts, or relies on a hard copy produced by the voter for data input. Any such machine that is already certified should be decertified immediately, especially if such machines were created to be run on now-obsolete operating systems.** The time to act is now.
Tom Gates, Roanoke County Government	**Decertification** The State Board of Elections should carefully consider the ramifications of decertifying WINvote voting machines less than two months before a primary election. This potential change presents a particularly challenging set of conditions to those localities conducting primaries in the upcoming months. As I understand, concern for irregularities in the performance of the WINvote machines prompt the decertification discussion. The wireless capability of the machines in particular has been of particular concern. While these concerns are reasonable, it is the case that reported irregularities have been limited and the voting machine's wireless communications can be disabled. As a matter of fairness, forcing localities to acquire new voting equipment with such limited time before a scheduled election seems wholly unreasonable particularly in light of the Commonwealth's lack of funding support for voting machine replacement. The estimated cost for voting machine replacement in Roanoke County is $400,000. The timing of the potential decertification gives localities no opportunity to budget for equipment replacement and therefore will force a re-prioritization of other funds very late in the fiscal year. It should be observed that the potential need to identify funding for voting machine replacement comes on the heels of the Commonwealth's reduction in Aid to Localities, which in Roanoke County has reduced budgeted revenue by nearly $300,000. From a practical perspective, it is infeasible to acquire and properly test new voting machines for use in upcoming elections. Implementing new machines and ensuring Officers of Election are properly trained on new equipment would be a considerable task given the limited time before a June primary election. The success of any election depends on the knowledge and abilities of the Officers of Election. Those skills and abilities surely include familiarity with voting equipment being utilized. Implementing new equipment without adequate time to ensure familiarity through proper training could call into question the integrity of the election as readily as concerns expressed about the WINvote machines. It is unclear to me why we would decertify equipment absent a comprehensive understanding of the machines deficiencies in favor of hasty implementation of a new system for voting. While we are all concerned for a fair, well executed election process, it seems the proposed solution would generate unnecessary fiscal distress for localities and potentially jeopardize the integrity of the very election process the decertification action is intended to defense. Tom Gates
Cianti Stewart-Reid, Planned Parenthood Advocates of Virginia	**Decommission WinVote machines** Planned Parenthood Advocates of Virginia is a nonpartisan statewide advocacy organization that is committed to modernizing and reducing barriers to voter registration and participation in elections. We believe the right to fully participate in democracy is fundamental to the citizens of Virginia. Voters must have confidence that that their votes are secure, accurate, and counted. Virginia is the only state still using WinVote machines because other states have recognized that, as technology has advanced,these machines are no longer secure and are prone to breaking down. The WinVote machines are outdated, many at least ten years old. Some localities have already begun replacing the machines because they have become less secure as technology has advanced and the likelihood of breakdowns. While we recognize that decommissioning the WinVote machines may have fiscal implications for localities, protecting confidence in our elections and ease of voter participation is worth the cost. Virginia should follow the lead of every other state and decommission these machines. Virginians nust have full confidence that their vote is secure and counted.
Juan E. Gilbert, University of Florida	**WinVote Direct Recording Electronic (DRE)**

	I am providing my comments as a voting systems expert. I have done work in this area for more than a decade and my research team has developed a secure, accessible and usable voting technology called Prime III that has been supported by the National Science Foundation, the U.S. Election Assistance Commission, http://www.PrimeVotingSystem.org, http://www.nsf.gov/awardsearch/showAward?AWD_ID=0738175 and see http://www.eac.gov/payments_and_grants/accessible_voting_technology_grant_winners.aspx, and multiple electronic voting system companies. I support the comments of Jeremy Epsein, Timothy Kendall, Peter Birk and others that do not recommend the certification of the WinVote Direct Recording Electronic (DRE), but specifically any DRE that does not produce a paper trail. As required by the law, voting must be accessible for all voters. Therefore, I would recommend a move to universal voting machines that produce a paper ballot vs. optical scan voting that requires people to physically mark a ballot. There are many solutions available including open source options that New Hampshire will be using in 2016, ES&S has ExpressVote, EveryOne Counts, and others. Optical scan has failed, but has not received much attention. Look at Minnesota in 2008, specifically, the Al Franken, Norm Coleman Senate race. Look at 2010 Alaska Senate race with Lisa Murkowski (R), Joe Miller (R), and Scott McAdams (D). These are just a few examples of issues that occur with optical scan that haven't received much attention as a voting issue. Again, I strongly recommend a universal design approach to voting. Universal design approaches provide a solution for all voters independent of the abiity or disability. The law requires voting to be accessible for everyone eligible voter. I am happy to explain my comments in further detail if necessary.
Cameron P Quinn, election professional	**timing is everything; elections integrity is critical; don't create more problems than you solve** **Comments regarding potential decertification of WinVote equipment from Cameron Quinn, former Secretary, Virginia State Board of Elections, and current local election official** These comments are made in my personal capacity, informed by over a dozen years as an elections professional in several state, federal and local capacities. While not professionally affected by this decision, due to the perspicacity of my Board of Supervisors and county officials in allowing the Office of Elections to already replace the WinVote equipment, I write in support of my colleagues who are not so fortunate. Comments filed to date largely focus on whether DREs, or the WinVote, are good, in comparison to optical scan or other paper trail systems. This decision (to decertify touchscreens that have no paper trail) has already been made by the legislature in 2007; the current decision is about timing of the phase out. While I presume, knowing the staff at ELECT that ELECT acted in good faith and with good intentions, the Department of Elections has nonetheless forced an unexpected and avertible crisis on localities. As someone titled their comments, “integrity of our vote is essential;” I totally agree. Where I disagree with most commenters is that by embracing the timing of immediate decertification of the WinVote the Board will increase integrity of voting, particularly in June, but potentially in some localities, even in November 2015. As those who know me are aware, I have had a solid commitment to elections integrity, as well as accessibility for voters, during my elections administration career. Even given my personal distrust of DRE equipment, in general, and of the WinVote machine in particular, however, I have seen no information that mandates *immediate* decertification of this equipment. **Point 1: Elections integrity can be compromised not just by faulty equipment, but also by changes to elections procedures without sufficient time or resources to properly manage the change process.** To make this decertification in an emergency manner is likely to do a disservice to the voters of the Commonwealth. **I urge the State Board of Elections to carefully consider that by decertifying this equipment AT THIS PARTICULAR POINT IN THE ELECTION CYCLE** with June primaries exactly 8 weeks away, and absentee voting beginning in days, the Board **is setting up almost certain failure at some of the affected jurisdictions**. Those failures, even more than the reported WinVote irregularities, **are likely to negatively affect voters’ ability to effectuate their intentions in the voting process.** Unless there is a non-public version of the report that prompted the actions of the Department of Elections (or “ELECT”), the problems cited in the report are additional evidence of further deterioration of a flawed voting system, not sudden, new information that mandates immediate decertification. While the WinVote system, and other DRE systems, should be replaced, and soon, since most are principally 10+ old computers, the generally positive experiences of many Virginia localities with this system, while not perfect, do not justify the recently proposed drastic action. I submit that such immediate decertification, undertaken to address long-acknowledged weaknesses in the WinVote system is inappropriate. There are steps that can be mandated while the equipment is still in use to mitigate the problems highlighted in the recent audit. If the reported irregularities of the WinVote in the November 2014 elections were sufficiently troubling to decertify the system, then this decision should have been made within two months after the election, not two months before the *next*election. **Point 2: Since there does not appear to be any sudden, new problem with the WinVote equipment, localities should be able to determine when, within a reasonable window, to acquire new equipment, particularly when this is an unfunded mandate.** It is my understanding that the affected localities understand the need to replace the equipment soon, but are almost universal in their desire that this not be in less than two months. Speaking from recent personal experience trying to replace voting equipment, this is a totally unrealistic timeline for most localities, even with strong support from local budget and procurement officials, ELECT and vendors. (And given the current funding and experienced personnel levels at ELECT, it will be difficult for them to provide *strong* support for the 29 affected localities and also to the other 104 localities that need ELECT’s guidance and direction before June.) And while many localities had not planned to replace the equipment before November 2016, given the very public talk of decertification, which likely has undermined some voters’ confidence in the system, there is likely universal recognition that at this point replacement is needed before November 2016. Whether the reasonable window for replacement should be after June 2015 and before November 2015, or before May or

	November 2016, I do not specifically address. The affected localities know better than I what they can best handle, given local circumstances. Calibration issues can negatively impact voter confidence, but so can other local elections or local government failures that are a direct result of this unexpected, unfunded mandate. While an immediate crisis is avoided if the State Board chooses to wait until after June before any decertification, nonetheless, affected localities will still face an overwhelming set of hoops and obstacles to select and use new voting systems for the November election. With all the resources available to Fairfax County, it still took six months between the end of the recount (so efforts could turn to beginning new voting system acquisition) and deployment of the new equipment in a small special election in August 2014. It would have been impossible to deploy in six months for a regular November election. Most local governments have now faced at least a decade of challenging budgets, which makes decisions more acute. Most localities' budgets for FY16 are finished, or about to be, leaving no time to make this kind of significant change immediately, or even in the next few months. Most elections offices do not get funding *now* that can guarantee error-free elections; this kind of additional burden makes errors even more likely. Allow the localities to determine, based on local circumstances, when best before November 2016 to make the transition to new voting equipment.
Ryan Benway	**no electronic machines** I am not interested in seeing electronic systems continue within this state, the systems have no paper trail showing the actual vote cast, and they are all vulnerable to hacking by some of our many unscrupulous political interests which we have in this country. I have a paper ballot option in Lynchburg where I live, I wish to stick with that and not be forced in the future to vote on one of these shady electronic voting machines. I've never used anything but the paper ballot system since being in Lynchburg. So, if the paper ballot scanner machines are too old, upgrade them, and leave out the hackable electronics that can be screwed with from a cell phone at a sheister politician's campaign headquarters.
Kathleen McDermott	**Do not decertify Win Vote machines without thorough study and replacement plan.** I've worked several Fairfax City elections and have seen how user-friendly our equipment and efficiently Win Vote machinery functions. As a retired IT Specialist, I was satisfied with what I observed about security within the system. Very few users had any difficulty with the machines and the tallies were always exact. Should a serious study of the machinery reveal weaknesses; I would recommend that those specific weaknesses be addressed the an interim period while the state finds, funds and executes a replacement product. My observations lead me to believe that a return to paper ballots or change to another format for our polling places would introduce a real risk of many more errors in the voting processs. For those reasons, I believe it would be more effective to take more time to complete thorough studies of the product by certified professionals. If serious weaknesses are found; then the process that I describe in the first paragraph could be followed. Recommend against sudden changes for users and for voting communities without an improved solution that is logistically and financially available. Until then, please allow communities with proven effective track records to continue to use Win Vote.
D. Kerr	**Decertify Until Secure Systems Exist** I support ending the use of electronic machines until such time as systems that function properly and securely are available. Every election cycle in recent memory has suffered these failures -- and there is an unsettling tendency of election officials to either blame the voters for the touchscreen " poor registration" issues or deny completely that these problems of vote switching even exist. I am thankful that my community still has paper ballots.
David L Dill	**Comments from Virginia Verified Voting** The post by Jeremy Epstein of Virginia Verified Voting enumerates an amazing list of vulnerabilities in the WinVote voting machines that would not be tolerated in computers used in any business. Using these machines is an open invitation to election theft. They should never be used again. These machines should be replaced optical scan ballots. Optical scan is the most widely used voting technology in the U.S. It is easy for voters to use, reliable, and easily auditable.
Barbara Kreykenbohm	**Paper is Better** Having worked as election officier in both Fairfax and Prince William County, my comment is based on experience. PAPER is better. In addition to the potential flaws of the machines, paper is faster. At key voting times long lines form at machines. This experience tends to discourage voters. With paper ballots it is easy to set up numerous privacy stations if needed. In this case the time that the voter actually uses the machine is just the time needed to insert the ballot into the machine, so long lines don't form. The paper machines are "smart" -- it will reject a ballot improperly filled out, e.g. too many votes for a specific issue, etc. One time when I was working at a paper machine, a vother (for reasons I don't understand) inserted a blank ballot. You should have seen his face when the machine shot it right back to him!
Marianna Williams	**Paper does not**
William kreykenbohm, Prince William election officer	**OCR / paper ballots better**

David Andrews / DRAND Consulting	**Allow for June Primaries in those localities, replace by November, 2015** As noted by several others, we are less than 8 weeks from the June Primary election, and decertifying equiment that will be used then would be unwise. The State Board should allow any locality that has pending June Prmary elections to continue use of WINVote DRE equipment for those elections only, and procure new equipment for the November, 2015 General Election. For localities with no scheduled June primaries, their equipment should be decertified now, and they can start the process to procure new equipment, with delivery after the July1 fiscal year start for budgeting purposes if necessary. As localities have been unable to buy new DREs per Code, many localities now have woefully too few DREs for voters, and lines get worse, turning voters away. Here in Spotsylvania County, the Fiscal Impact statement for SB827, which would have decertified all DREs by July 2016, stated replacing 62 machines would cost about $314K. But with a registrant count of 82,000, and with 24.2-627 requiring 1 DRE per every 750 registered voterd per precinct, that would require 110 machines! No wonder we had 2-3 hour lines in 2012! With optical scan equipment, you can set up as many privacy stations as you want, with the only wait being for the 15-20 seconds for the ballot to be tabulated. The actual lines in the precinct where I am Chief are at check-in at the pollbook, if we have lines at all. Please decertify the WINVote this year.
Anne D. Sterling	**Problems with WINvote began early** Dr Jeremy Epstein is one of our preeminent experts on voting security, here in Virginia. He has advised our legislative and executive leaders since the days of the Hugo Commission. Everyone interested in this WINvote machine decision. . . should read his comments, posted on April 11 at 9:46 a.m. My own point: Looking back at WINvote use in Virginia, the problems began early. Fairfax County chose WINvote equipment and used it in the election of November, 2003. Afterward, the Republican Party of Fairfax County was so concerned about problems they saw. . . that they published a report-- still available on internet. "A Report by Fairfax County Republican Committee, 'Operation Ballot Integrity' copyright 2004" Finally, it bears noting that many voters using WINvote machines are satisfied with the experience. The machines appear to record their votes efficiently. But just as citizens depend on public health officials to keep them safe from viruses which are invisible-- they must also depend on public voting officials to protect them from voting systems with security flaws-- which are also invisible. Our State Board of Elections and our Commissioner of Elections deserve our support as they strive to safeguard the voting public. In Virginia, we value making our own decisions. We expect vote totals to be accurately, securely recorded and tallied on Election Day. Let us help the hard-working state election officials-- who are collaborating with our dedicated local officials-- to ensure accurate elections.
Steve Tyree	**Paper ballets** I don't trust touchscreen voting, paper ballets are a better form of casting a ballot. Computers are very easily hacked and information can be changed. At least with a paper ballot someone actually has to look at and count my vote instead of relying on a machine. I also think voter I.Ds should be manditory.
Barbara Matthews, Officer of Elections, Fairfax City	**WinVote** I cannot comment on the experience with this equipment in other jurisdictions, but based on my experiene as an Officer of Elections for the past 15 years, I believe our experience with it has been good in Fairfax City. Similarly, the integrity of elections in the City simply is not an issue, nor does it appear to be an issue in the Commonwealth. Consequently, I believe Fairfax City has nothing to gain from expending additional funds on new equipment and the extensive training that new equipment would require.
Marilyn Karp	**WinVote voting equipment Issue** The WinViote equipment is old and outdated, runs on Microsoft XP which is no longer supported. There is no longer a way to repair these old machines. We cannot rely on outdated, insecure technology, prone to breakdowns. - The machines have security vulnerabilities and all citizens need to feel their vote is properly recorded and counted. - The interim, independent report raises concerns. We should not wait for a catastrophic failure before acting. - In Virginia there are elections every year. There will never be “good” time to act. We do not want to be the “Florida” of 2016. Fix the problem now; do not wait for a systemic failure. - Citizens need to have confidence in accurate, secure voting. Our democracy depends on it. - It is a shame the GA did not have the foresight to budget for the voting machine replacement; but, that is no reason to shy away from fixing a problem - It is the responsibility of the SBE, ELECT, and local jurisdiction registrars and election boards to ensure accurate, reliable,

	secure voting at all times. While budgetary concerns might bring hardships, the integrity of the voting process is primary Sincerely, Marilyn Karp
Gordon Jarratt, individual with long exposure to the AVS WinVote platform	**Comments for SBE to consider about AVS WinVote** These comments are for me as an individual and as a Virginia registered voter and taxpayer. I have been regularly exposed to the operational aspects of the AVS WinVote platform since 2003. The vendor went out business in 2007. Anyone with knowledge about the recent technical and security risk evaluation by VITA's security contractor, and of the AVS WinVote system in general, and the total lack of vendor support for 8 years, should generally agree that the platform is at end of life and it is a candidate to be replaced. **However, the key question for right now is what should the SBE do about this and when?** While I cannot answer this for the SBE, I can provide some insights and considerations for the SBE to take into account. Note that ALL of the risks and concerns that have recently been identified by the technical review have existed for over a decade. Even with all of the Federal compliance testing, and the previous Virginia state testing and certification – none of that failed to uncover any vulnerabilities in the hardware and software. SBE should not feel too bad – the other states that certified AVS WinVote also did not discover any of these issues. So most would agree that objectively this is not some new urgent crisis that demands immediate radical attention by the SBE as the only solution. It is true that there have been no updates and operating system upgrades, etc. However, it is also true that AVS WinVote machines are not connected to the Internet, so in their stand-alone mode, many of the risks and vulnerabilities while on one level are legitimate issues to point out, they frankly are not directly relevant to the operation and use of the AVS WinVote system the way they are used by precincts in Virginia. There are many redundant procedures and controls that local Registrars and Election Management Offices use each election to ensure smooth operation and integrity of the vote. Some of these are tailored around the various voting platforms, including AVS WinVote. In addition, the AVS voting system hardware and software itself has multiple redundant vote audit and control features both within memory and on the hard drive and on removable memory sticks. There is no evidence that anything recently discovered could be improperly utilized to alter the vote. And the multiple procedures and audit controls used by local election officials will also help ensure this. If SBE/ELECT prohibits the platform right now it will of course clobber the dozen plus medium to large localities with town/primary elections in May/June. Even replacement by September to be ready for early voting for November 2015 elections is almost impossible to achieve now for any of the two dozen plus medium to large jurisdictions that depend on AVS. There is so much more to all of this than just the new voting machines. Other aspects of any replacement voting system include new hardware, new software, new election management system to set up ballots and administer the election and to collect the votes, install the new EMS in a walled off secure area only accessible by authorized elections personnel, acceptance testing, new training for all elections employees, ballot preparation for the next election (multiple different ballots for multiple precincts), new hardware and software to support HAVA and differently-abled voters, new training for all citizen poll workers, ballot preparation, employee training, election worker training, new election night vote collection and reporting process & procedures, new software license and hardware maintenance agreements, voting machine vendor technical support agreements (particularly for onsite support during initial production usage on election day & night, etc…). SBE is encouraged to not make a decision that puts immediate pressure on multiple localities to jam in some new voting platform without taking the time to procure and implement it properly. If SBE instantly decertifies AVS WinVote, the decision will force these localities to go to paper ballots, or make them install a brand new platform in a haphazard manner with too many shortcuts. Both of those outcomes will cause chaos and confusion and a poor voter experience. For this registered voter and tax payer, the threshold for making a radical decision to automatically de-certify WinVote has objectively not been met. A planned future date to decertify AVS WInVote in 12-24 months would be more prudent, and also allow localities to try and allocate scarce budget dollars for a replacement system. Several forward looking points for SBE consideration: ELECT should continue to add even more rigor and structure and thoroughness and stress testing into all aspects of the state certification process. This type of testing needs to include the entire voting process including mock elections and the election worker and actual voter interface with the ballot marking and ballot scanning devices. Even for voting platforms that are certified, it probably makes sense for there to be a re-certification of those every 3-5 years or so. Of course that is more difficult to do when the vendor goes out of business (like AVS), and everyone is dependent a small 3rd party to try and keep their voting equipment investment going for a few more years. Most localities would like at least 2-3 years lead time before they have to make big investments in a new voting platform because the current one they have may become de-certified.
Barbara Simons	**Please Decertify WinVote Equipment** I am a computer scientist and have been working on voting integrity issues for well over a decade, including co-authoring *Broken Ballots*, a book on voting technology. While I am also a member of the Board of Advisors of the U.S. Election Assistance Commission, I am speaking for myself only and not on behalf of any organization with which I am associated. Given the prevalence of software bugs and the risk of hidden malware, there is no way to verify that the results produced by a paperless voting machine are correct. Furthermore, we have known for some time that the WinVote machines are especially insecure and unreliable, as Jeremy Epstein documents in his excellent posting. Therefore, I urge the Board of Elections to replace the WinVote machines with a more modern paper-based voting system that also allows for recounts and post-election ballot audits.

John Perkins, Retired, USN	**WINview Electronic Voting - yes/no** While I believe that electronic voting is a wonderful convenience, for not only the voting community, but for the thousands of volunteers who work the ballots during the many elections we have, that convenience cannot take precedence over the ultimate importance of accuracy of totaled ballots. Therefore, until the electronic technicians who service these voting machines can certify that their machines are 100% accurate, without any possibility of being hacked by an outside entity, I would have to vote "No" to electronic voting within my voting district. Thank you!
Eugene Spafford	**The WinVote DRE should be decertified** I have been working in information security for 30 years. I am currently a professor at Purdue University (that is for identification purposes only -- Purdue has no position on this issue), and have received numerous awards for my work in cyber security. I fully support the statement by Virginia Verified Voting. DRE systems -- and the WinVote system in particular -- are not secure, and they can be hacked into without trace. To have elections we can trust it is necessary to have unalterable and auditable voting. Optical scan systems where the paper is kept for manual recount is currently the only widely-available conmputer-based system that does this. The WinVote system should be decertified and replaced with Optical Scan (or paper ballot).
Alex Blakemore, Virginia Verified Voting	**Election Integrity Security trumps convenience, decertify AVS WinVote** Verified Voting strongly endorses the recommendations from the SBE Chief Information Officer that the SBE should immediately decertify AVS WinVote voting machines in Virginia. As with all DREs, AVS WinVote machines provide no voter-verified record of cast ballots so that there is no independent way to check the accuracy of election results to safeguard against machine failure, human error or tampering. For this reason, the Virginia General Assembly has banned the purchase of new DREs since 2007. AVS WinVote is especially vulnerable to security incidents since it is the lone system that uses WIFI for configuration, potentially allowing outside parties to disrupt or tamper with an election. AVS uses the weak WEP protocol for encryption that has long ago been shown to be extremely vulnerable. There are many other serious security flaws in AVS WinVote – well described in the comments from my colleague Jeremy Epstein. Current Virginia statute and Federal EAP guidelines prohibit wireless communication for new voting systems precisely because of the many security vulnerabilities that wireless communications present. Unfortunately, there is no realistic way to disable the WiFi capability on AVS WinVote machines since they require those features to setup and close elections. There have been several serious incidents with AVS WinVotes in Virginia elections. In March 2010, an AVS WinVote reported obviously incorrect results at the end of a Fairfax County special election. During the canvas, the memory sticks inside the DRE contained different results that at least fell within the expected range. Without a paper audit trail, the local electoral board had no way to verify whether the results were correct, but chose to accept the internal memory stick results. The error was never explained, and to this day no one knows why the system reported incorrect results or whether the problem exists in other AVS machines. In November 2010, 2 AVS WinVote DREs failed to report results at closing in Fairfax County. The next day during the canvas, the DREs were able to produce a closing report. Again without a paper trail, there was (and is) no safeguard against software failure or tampering. During every election, there are frequent reports of AVS WinVotes recording votes for candidates other than the voter selected, most likely due to touch screen calibration issues. In the incidents described above, Virginia has so far dodged the bullet since the errors have not yet led to a spoiled or overturned election, at least as far as we can tell without the evidence a paper ballot would provide. Many organizations across the political spectrum have explicitly called to replace paperless DREs with voting methods such as optical scan tabulators that provide a voter verified record of the ballot that can be examined in case of machine failures, recounts or audits. The DNC and DPVA have both passed resolutions calling for voter verified paper audit trails. General Assembly members from both parties studied this issue in depth, including with a 2-year commission led by Del. Tim Hugo, before changing state policy to prohibit additional DREs. AVS WinVote machines have serious security flaws and are rapidly aging. The vendor has long since gone out of business. I realize you are hearing from election officials who are resistant to change, but the remaining localities using AVS WinVote will need to purchase new machines at some point soon in any case. The prohibition against new DRE purchases was instituted almost 8 years ago, so the localities have had many years to plan and budget for replacement machines. We strongly urge the SBE to follow the recommendation of its CIO and decertify AVS WinVote. Ensuring the integrity of all Virginia elections is the essential priority and should trump the convenience of election officers to wirelessly configure machines, or the desire of localities to risk our elections with aging vulnerable equipment simply to avoid change. With statewide elections coming in 2016, this issue affects all Virginians, not just those using DREs. Respectfully, Alex Blakemore, Ph.D. (Computer Science) Co-founder Virginia Verified Voting Reston, VA

Lawyers' Committee for Civil Rights Under Law	**Protect the Vote** The Lawyers' Committee for Civil Rights Under Law ("Lawyers' Committee") writes to offer comments regarding the Department of Elections' proposed decertification of the WINVote voting machines. The Lawyers' Committee is a nonpartisan, nonprofit organization, formed in 1963 at the request of President John F. Kennedy to involve the private bar in providing legal services to address racial discrimination. The principal mission of the Lawyers' Committee is to secure equal justice under law, particularly in voting rights, criminal justice, community development, employment, educational opportunities, fair housing and fair lending, and immigration. As part of the Lawyers' Committee's mission to secure equal justice under law, the Lawyers' Committee leads the Election Protection coalition, a non-partisan coalition formed to ensure that all voters have an equal opportunity to participate in the electoral process. The Election Protection coalition operates a suite of voter assistance hotlines, including 866-OUR-VOTE (English language), 888-VE-Y-VOTA (Spanish language) and 888-API-VOTE (Asian language), that provides citizens accurate and timely information about voting and also receives reports of problems voters encounter when casting a ballot. The coalition includes more than 100 local, state and national partners. Every general election year, Election Protection receives hundreds of calls from Virginia voters. The Lawyers' Committee has several concerns regarding the use of WINVote voting machines: (1) The WINVote machines are at least ten years old and are prone to breakdowns, no longer receive software updates, and have become less secure as technology advances (*see* http://elections.virginia.gov/WebDocs/VotingEquipReport/3.pdf); (2) the widespread issues with voting machines in Virginia threaten the State's ability to ensure elections remain free, fair and accessible; and (3) failure to replace faulty machines could result in a violation of the Board's responsibility to protect the integrity of elections in Virginia, in keeping with the Virginia Code 24.2-103. Given these challenges posed by the continued use of WINVote machines, the Lawyers' Committee respectfully suggests that the Department of Elections discontinue the use of WINVote voting machines, and that the General Assembly should enable localities to purchase new and better voting machines. Voters calling into the Election Protection hotline have reported problems with touch screen voting machines in Virginia, similar to those identified in the audit report. In 2012, for instance, one polling place in Hampton had only a single working voting machine at one point on Election Day, contributing to long lines to vote. Similarly, in 2014, Election Protection received calls from voters in Henrico and other counties reporting malfunctioning touch screen machines. While some of these voters were able to receive help, others may not have noticed that the machine did not accurately reflect their vote and may have left the voting booth effectively disenfranchised. As stated by Elections Commissioner Edgardo Cortes, the machines have passed the point of usefulness and need to be replaced with newer, more reliable, systems. While voting machines are expensive, protecting confidence in Virginia elections and ease of voter participation is certainly worth the cost. Some localities have already begun replacing these dated machines. The General Assembly and localities with fewer readily available funds should work together to replace WINVote machines and comply with a state mandate to phase out WINVote machines. The Lawyers' Committee appreciates the opportunity to offer these comments and looks forward to working with the Virginia State Board of Elections to ensure that all voting equipment functions properly and allows for fair and accessible elections. The Lawyers' Committee strongly urges the Board to move to immediately decommission the WINVote machines to protect the integrity of Virginia elections.
Pamela Smith, President, Verified Voting Foundation	**Moving Forward to Verifiable Voting Systems - Decertify Winvote** Thank you for making this public forum available for comments on the issues relating to the AVS WinVote voting system in the Commonwealth of Virginia. We commend the Commissioner and the Department of Elections (ELECT) for conducting a robust review of technology issues following the 2014 election. We write to add our comments to those of others including Virginians for Verified Voting (VAVV) who call for the de-certification of the AVS WinVote system. Verified Voting is a non-partisan, nonprofit organization that works to safeguard elections in the digital age. We have many associates in the Commonwealth of Virginia and we are the only organization that maintains an extensive resource on voting technology in use in all jurisdictions around the nation. We agree with the recommendation to de-certify the AVS WinVote voting system and take steps to support those counties saddled with this old and unreliable system so that they can transition more readily into a new era of verifiable, evidence-based voting systems. We believe it is important to make clear that any shortcomings in the technology should not be construed as any kind of a reflection on the local election offices' operations and capabilities. We have great respect for the hard work all our election officials undertake in supporting our democracy and believe they should be supported with reliable systems rather than left with lingering questions because of systems that cannot be effectively checked for accuracy. It should be noted that no other jurisdiction outside of the Commonwealth of Virginia is using this system. In the past it was used in several states, but the others have all decertified and discontinued its use. Problems have been reported (including in VA) from as far back as 2003. When concerns were raised about the wireless communications capability of the voting system a number of years ago, a procedural approach was taken to dealing with this major security flaw, requiring the connection to be disabled during elections. However, it is clear from recent evidence that there is no guarantee that a procedural approach for a technology problem can be relied upon. It is instead far better to address this technology problem with a technology solution: de-certify this flawed system and obtain new, verifiable systems that are not undermined by this wireless point of entry. Of greater concern than the wireless capability is the inability to conduct an effective recount or post-election audit on the AVS WinVote system. It, and other direct recording electronic voting machines like it, do not provide voters with the physical ballot they can check to ensure their votes were captured as they intended. Nationally jurisdictions that are discarding their old voting machines are replacing them with voter-verifiable paper ballot systems that are counted by digital scanners. These have many advantages, including prevention of long lines on election day, cost-effectiveness, and most importantly, the ability to conduct legitimate recounts or audits to ensure accurate vote counts and correct election outcomes. Thank you again for this opportunity to weigh in on this matter. What happens in elections in the Commonwealth of Virginia matters to the whole nation.

Lois Page	**Regarding outdated voting machines in Virginia** Dear Mr. McClees, I recently read about the interim independent report on voitng machinges in Virginia. I am writing to express my concern over the continuing use of old, outdated and insecure voting equipment. I have heard it said that we could have catastrophic breakdowns during in the 2016 election for sure. Who knows what could happen before that? I understand the DREs runs on Microsoft XP which is no longer supported and there is no longer a way to repair them In Virginia there are elections every year. We should not wait for a catastrophic failure before acting. Virginia surely does not want the kind of public face that Florida had becasue of the hanging chad debacle. We do not need any more blows to citizen confidence in the workings of our democracy. I understand that the General Assembly failed in its attempt to budget for machine replacement but other ways must be found to fix the problem. It is the responsibility of the SBE, ELECT, and local jurisdiction registrars and election boards to ensure accurate, reliable, secure voting at all times. While budgetary concerns might bring hardships, the integrity of the voting process is primary. Sincerely yours, Lois Page, Fairfax Station
Carol L. Tobin, General Registrar, Warren County & Lee B. Bowen, Secretary, Warren County Electoral Board	Taking action for decertification of the WINvote voting machine is very premature. Based on the report, it appears that the testing was not comprehensive nor was the system tested with the (encrypted) wireless capability turned off. Before taking the extreme measure of decertification of these machines, a more comprehensive review is highly recommended with the inclusion of the voting machine vendor and localities that have years of experience and expertise with using and testing these machines. This is a major decision that will affect many localities; therefore, please consider further comprehensive testing and if warranted, address possible solutions before taking the major action of decertification. Thank you for the opportunity to comment.
Douglas P. Stanley, Warren County Administrator	Gentlemen: Taking action for decertification of the WINVote voting machine seems to be premature. According to the interim report, it appears a comprehensive test was not performed nor was the system tested with the encrypted wireless capability disabled. I understand from our Voter Registrar, who has worked with this equipment since 2005, that she has not encountered the problems indicated in this report. I believe a more comprehensive review of these machines is warranted and a review should include input by the machine vendor and the localities experienced with these machines. Decertification of these machines will significantly affect the voters in many localities; therefore, please consider further comprehensive testing before decertify these machines. Your consideration would be greatly appreciated. Sincerely, Douglas P. Stanley County Administrator
Janice J. Miano	**Voting** The integrity of the voting process must be preserved, especially in the current political/societial atmophere.

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Adjournment

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BOARD MEETING

Tuesday, April 14, 2015
General Assembly Building
Room D
11:00AM

SBE Board Working Papers
Prepared by Rose Mansfield
SBE Clerk