COUNTY OF LOS ANGELES
REGISTRAR-RECORDER/COUNTY CLERK
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CONNY B. McCORMACK
Registrar-Recorder/County Clerk

August 13, 2007

TO: EACH SUPERVISOR

FROM: Conny B. McCormack, Registrar-Recorder/County Clerk

VOTING SYSTEMS STATUS REPORT AND RECOMMENDATIONS

The attached report was prepared in response to item #45 on the agenda of the August 14, 2007 Board of Supervisors meeting.

If you have additional questions, please let me know.

Attachment

C: William T Fujioka, Chief Executive Officer, Los Angeles County
Secretary of State Debra Bowen
Aldo Tessi, President, Election Systems & Software, Inc.

VOTING SYSTEMS STATUS REPORT AND RECOMMENDATIONS FOLLOWING SECRETARY OF STATE DEBRA BOWEN'S AUGUST 3, 2007 DE-CERTIFICATION ORDERS

OVERVIEW:

A few minutes before midnight on August 3, 2007, Secretary of State (SOS) Debra Bowen de-certified the three voting systems she tested in June and July 2007 as part of an announced "top to bottom" review. Of the nine voting systems used in California[1], three were included in the "top to bottom" testing and review. Although SOS Bowen simultaneously re-certified the three voting systems following her de-certification orders (Orders), she imposed a number of conditions that must be met for counties to continue to use the specified equipment. Many of the conditions are significant and administratively onerous. The Orders that apply to systems used in Los Angeles County (County) are found at Attachment 1.

The SOS's plan called for including the InkaVote Plus system[2] in the review. However, the SOS determined the InkaVote Plus system vendor, Election Systems & Software (ES&S), provided the system components too late for inclusion in the initial review[3]. On August 3rd the SOS issued a Rescission Order for the ES&S InkaVote Plus system, withdrawing approval to use the system with respect to the February 5, 2008 Presidential Primary Election and all subsequent elections. The Rescission Order does not apply to the multiple elections scheduled to be administered by Los Angeles County during the remainder of 2007 for which the InkaVote Plus equipment will be utilized at every voting precinct to comply with specific Federal and State legal requirements. Although the InkaVote Plus system was not tested in the "top to bottom" review, the SOS has stated that the system will be reviewed by her office in the near future.

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[1] The SOS chose to include systems made by Sequoia, Diebold, Hart Intercivic and ES&S (with regard to the InkaVote Plus system) in the "top to bottom" review. The vote counting systems the SOS excluded from the review include: 1) the ES&S Automark system used by 14 California counties, 2) the DFM system used by three California counties, 3) the Votec system used by the City of Los Angeles, and 4) the Martin & Chapman system used by approximately 60 cities within Los Angeles County. The SOS has announced her intention to review both the InkaVote Plus and the Automark systems at an unspecified time in the future. With regard to the MTS system used by Los Angles County to tabulate all InkaVote ballots, the SOS and the Los Angeles County Board of Supervisors executed an Agreement on July 3, 2007 to remove the MTS system from the review due to its anticipated replacement with Diebold GEMS2 tally system following state certification.

[2] InkaVote Plus is deployed at all voting precincts in conjunction with Los Angeles County elections for compliance with specific Federal and State legal provisions; it is not used for ballot counting.

[3] In early May 2007, the SOS notified the four voting system vendors selected for inclusion in the "top to bottom" review that they were to submit all of their system, components including software source code, immediately. The SOS subsequently sent a follow-up letter highlighting the final deadline for submission was May 31, 2007 (at that time none of the four vendors had submitted all of the requested system components for the review). Other vendors submitted all requested items between early to mid-June. ES&S finalized their submission on June 25, 2007.

THREE VOTING SYSTEMS USED IN LOS ANGELES COUNTY

Micro Tally System (MTS): This is a central tabulation system used to count ALL InkaVote ballots cast in Los Angeles County (County) elections whether they are cast at polling places on Election Day or via the absentee/mail process. The MTS tabulation software was developed by the County's Internal Services Department (ISD) and has been used in all County elections since its certification by the Secretary of State in 1998 (and re-certification in 2002 following the change from Votomatic punch cards to InkaVote optical scan ballot cards). It has never been federally tested (i.e. system was "grandfathered in"). Initially, as part of SOS Bowen's announced "top to bottom" review of voting systems, the MTS system was to be the first system tested (in early May 2007 the SOS chose MTS first during a random drawing to determine testing order of voting systems). However, in mid-June 2007, SOS Bowen contacted the Board of Supervisors to suggest the MTS system not be included in her review as the system was slated for replacement by Diebold GEMS 2 upon certification by the State (GEMS 2 successfully passed federal testing and approval earlier this year. State-level testing by the SOS is scheduled to commence later this month). On July 3, 2007 the Board of Supervisors signed an Agreement with SOS Bowen to remove MTS from the "top to bottom" review under conditions established in the Agreement.

InkaVote Plus Voting System: This system passed federal testing and was approved for use in 2005 under the most current federal standards. Subsequently, the system was state tested and certified by the SOS in April 2006. The system consists of two pieces of equipment used at all polling places to bring Los Angeles County into compliance with federal and state laws regarding 1) disability access allowing independent voting by blind and otherwise disabled voters, and 2) error-detection to allow voters who make a mistake, such as voting for too many candidates in a race, to be alerted prior to casting the ballot, thereby providing an opportunity to correct such errors. The system is NOT used to tabulate any votes in elections conducted by the County or by the City of Los Angeles (City). All vote counting for County elections occurs using the MTS central tabulation system described above. All ballot counting for elections conducted by the City involves use of the Votec central tabulation system (as noted in footnote 1).

After an extensive RFP and bid evaluation process, the County purchased the InkaVote Plus system from ES&S for $25 million in 2006. The system was successfully implemented countywide for the first time for the November 2006 General Election at 5,000 voting precincts. Thousands of voters were alerted regarding inadvertent errors and expressed their gratitude for the opportunity to correct their voting mistakes prior to casting their ballots. Hundreds of other voters utilized the InkaVote Plus disability access equipment to enhance their voting experience including those who were able to cast a ballot independently for the first time at their voting precinct due to the system's accessibility features.

This year the InkaVote Plus system was used at 2,200 voting precincts for each of the City of Los Angeles' March and May 2007 elections as well as the May 15th Special 39th State Assembly District Election, the June 5th Palos Verdes Special Election, the June 12th Wiseburn School District Special Bond Elecction, and the 37th Congressional District Special Primary Election on June 26th. The InkaVote Plus equipment was not used to count votes in any of these elections but rather to comply with federal and state laws regarding disability access and to offer all voters error-detection protection.

The InkaVote Plus system will next be used on August 21st for the 37th Congressional District Special General Election, followed by the September 25th City of Lynwood Recall Election and then the November 6th Uniform District Elections (multiple school districts, cities, and other special districts will be on that ballot). The SOS Order withdrawing approval of the InkaVote Plus system does not impact use of the InkaVote Plus system for any of the upcoming elections to be held in 2007 as described above.

Diebold TSX Electronic (Touchscreen) Voting System: Since the November 2000 Election, this system has been successfully used in statewide elections by over 200,000 Los Angeles County voters during the "early voting period" at 17 locations in the two weeks prior to election day. From 2000-2005, Diebold TS touchscreen equipment was used. Due to a change in state law requiring all touchscreen voting units to be equipped with a voter verified paper audit trail (VVPAT) printer before the 2006 election cycle, the County upgraded the system to the VVPAT-compatible TSX equipment in early 2006 at a cost of approximately $450,000. The TSX equipment was used for early voting in the June and November 2006 statewide elections. Most recently this equipment was used for early voting in conjunction with elections conducted by the City in March and May 2007. To clarify the County's use of the Diebold touchscreen voting equipment, enclosed is a one-page summary of the history and statistics regarding utilizing this equipment for early voting in conjunction with statewide elections in Los Angeles County from 2000-2007 (Attachment 2).

SOS DE-CERTIFICATION ORDERS:

Regarding InkaVote Plus Voting System

On August 3, 2007 the SOS issued an Order entitled "*Rescission and Withdrawal of Approval of the Election Systems and Software InkaVote Plus Precinct Ballot Counting System, Version 2.1, as Approved on April 21, 2006.*" This Order (Attachment 1) references the State Elections Code (Section 19222) which allows the SOS to conduct periodic reviews of voting systems and prohibit their further use if the system(s) is found to be defective, obsolete or otherwise unacceptable. There appears to be conflicting language in the Order as to whether the system has been reviewed. For example, in the middle of page 2

there is a statement "Whereas, I have reviewed the InkaVote Plus voting system...." However, at the bottom of page 2 there is another statement regarding ES&S that reads "By preventing the SOS from conducting a periodic review....renders the voting system unacceptable..."

Although SOS Bowen commented in her August 3rd press conference that she anticipated, following her office's review, that the InkaVote Plus system would be re-certified – possibly with some unspecified conditions – there is no guarantee such action will occur. Or, if the SOS does re-certify InkaVote Plus, it is unknown if the conditions for continued use will be administratively workable or not.

It took 18 months for the County to issue an RFP, complete the evaluation process, select a vendor, sign a contract, order the equipment, await the equipment manufacturing, complete the acceptance testing on each of the 9,800 units, develop training materials, train pollworkers and conduct voter outreach regarding the new InkaVote Plus voting system. It is now less than six months before California's February 5, 2008 Presidential Primary Election, the first of the three major elections that will take place in 2008. Due to the size and complexity of election administration in the County, advanced preparation for the February 5, 2008 Presidential Primary Election has already begun. Any changes to the voting system, including requiring new use conditions or procedures, would add high risk to the County's ability to successfully conduct that election.

The InkaVote Plus system vendor, ES&S, sent a letter to the SOS on August 10, 2007 (Attachment 3) seeking clarification regarding the Rescission Order and requesting weekly meetings regarding the ongoing status of system testing and review. The Los Angeles County Board of Supervisors also sent a letter on August 10 (Attachment 4) clarifying that InkaVote Plus is not used to tabulate votes and offering any assistance needed to insure re-certification of the system as expeditiously as possible.

Regarding Diebold Accuvote Tsx (Touchscreen) System

As described above, the Diebold touchscreen system has been used by the County and City in conjunction with major elections over the past seven years in order to accommodate any voter who seeks to vote in advance of Election Day at their choice among multiple sites established for the purpose of offering early voting. Trends have shown that early voting peaks in the last three days it is offered. For each major election the system has accommodated tens of thousands of voters who seek to vote after the deadline to apply for an absentee ballot by mail has passed. Early voters have expressed their appreciation for the opportunity to vote in advance of Election Day at one of the established locations, especially when they find out a few days before the election that they are going out of town or another scheduling conflict has arisen preventing Election Day voting.

The SOS de-certified the Diebold TSX system on August 3, 2007 but simultaneously re-certified the system for future use provided a number of wide-ranging conditions are met. Of the many new conditions, the most administratively difficult and costly involves the requirement that "the jurisdiction must conduct a 100% manual count audit of all votes cast on an AccuVote-Tsx."

Based on the number of voters who utilized this system during the early voting period in the most recent presidential election year (2004), and based on our experience with manually counting all votes cast in a random selection of 1% of the voting precincts (as specified by state law for many years), it would be very labor-intensive, difficult and time consuming to manually count all of the races on all of the ballots cast on the Tsx units. However, it is important to clarify that the SOS Order does not require the 100% manual count audit to occur prior to completion of official results certification. That delineated timeframe to conduct the 100% manual count audit only applies to a specific unit(s) if there is evidence of tampering with the unit(s).

To date there has been inadequate time to analyze the anticipated staff resources, timeline and costs that would be associated with a manual count audit of 100% of the votes anticipated to be cast during the early voting period in conjunction with the February 5, 2008 Presidential Primary Election or during the June 3 and November 4, 2008 Primary and General Elections, respectively. As an initial basis for comparison, attached is a document which details the staffing requirements, timeline and costs associated with the manual tally of all votes cast in a randomly selected 1% of the precincts in conjunction with the November 2006 election (Attachment 5). That manual tally of 25,526 ballots required 50 experienced staff working ten hours a day for 17 days. Labor costs associated with the manual tally amounted to $207,508.

There were 65,680 ballots cast on the County's Tsx units during the early voting period for the November 2004 election compared with the 25,526 ballots involved in the manual tally in conjunction with the November 2006 election. The SOS Order states that "this post-election auditing requirement shall be paid for by the vendor. Jurisdiction users are required to conduct the audits and the vendor is required to reimburse the jurisdiction." There are no provisions in our contract with Diebold that address such a reimbursement. We would need to involve County Counsel with regard to the provisions of the existing contract in this regard.

.As we reported to the Board of Supervisors following the November 2006 election (Attachment 6), a voluntary manual audit of two randomly selected electoral contests was conducted on a 5% sample of the County's Tsx units. This audit resulted in discovery of manual tally human errors which, when rectified, revealed the equipment counted accurately.

The new SOS requirement to conduct a 100% manual count audit of ALL votes cast on any Tsx unit is not based on any statistical evaluation or past experience with auditing voting equipment. In testimony at a hearing of the U.S. House Committee on Administration in Washington, DC. on March 23, 2007 regarding election bill HR811, SOS Bowen was asked "who should establish the percentage of votes to be audited following an election?" SOS Bowen responded that the determination should be based on the work of a statistician. Specifically she testified "this isn't a place where politicians should be making the call." Her subsequent Order requiring a 100% manual count audit is not consistent with that statement and is far in excess of the 3% manual count audit currently proposed in HR811.

Last year the State of North Carolina passed a state law adopting a methodology for selecting post-election audit samples based on recommendations made by a statistician. The North Carolina statute states "the size of the sample of each category shall be chosen to produce a statistically significant result and shall be chosen after consultation with a statistician." County election officials from North Carolina have indicated they have been able to effectively implement this manual counting methodology (involving approximately 2% for one electoral contest on the ballot) without incurring significant administrative barriers.

Additionally, the SOS Order regarding future use of Tsx units for early voting mandates a number of other conditions. We believe our past practice of utilizing government buildings[4] for early voting locations would meet one of the new specified conditions, i.e. that the voting equipment must be secured against tampering within a jurisdiction facility that meets the security standards of the jurisdiction's election headquarters.

There is no legal requirement to offer early voting at satellite locations (the only requirement is to offer voting in advance of Election Day at each county's election headquarters). We are conducting a survey of other California counties to determine how many have offered early voting at multiple locations for past major elections and how many intend to continue, curtail or eliminate their early voting program as a result of the conditions for continued use the SOS established in her August 3rd Order. To date we have learned that at least one major county (Alameda) has decided to eliminate early voting at satellite locations due to the conditions imposed by the SOS. Several other counties have indicated they have not yet made a determination.

RECOMMENDATIONS:

1. **Early Voting on Touchscreens**: Continue to serve the electorate in Los Angeles County by offering this popular program for the February 5, 2008

[4] With the exception of the Braille Institute (which has been a popular location ever since the early voting program began in November 2000), all early voting sites for past elections have been located in County or City libraries and City Halls.

Presidential Primary Election. Following the election, assess the operational challenges, costs and consequences to sustain this option for the County's voters in conjunction with the June 3, 2008 and November 4, 2008 election.

2. **InkaVote Plus**: Continue to communicate with the SOS regarding the critical need for the InkaVote Plus system to be re-certified quickly and without new use conditions that could hamper the ability to conduct a successful Presidential Primary Election on February 5, 2008 and subsequent elections.

3. **Voter Education:** Due to the confluence of the SOS de-certification Orders at a time when a number of high profile elections will be conducted in the County in August, September and November 2007 (as detailed above), our Department has prepared a one-page fact sheet (Attachment 7) which will be available should voters inquire about the continued use of the InkaVote Plus system at these elections.

State of California

SECRETARY OF STATE

RESCISSION AND WITHDRAWAL OF APPROVAL OF THE ELECTION SYSTEMS AND SOFTWARE INKAVOTE PLUS PRECINCT BALLOT COUNTING SYSTEM, VERSION 2.1, AS APPROVED ON APRIL 21, 2006

Whereas, pursuant to Elections Code section 19201, no voting system, in whole or in part, may be used unless it has received the approval of the Secretary of State; and

Whereas, Elections Code section 19222 requires that I, as Secretary of State for the State of California, conduct periodic reviews of voting systems to determine if they are defective, obsolete, or otherwise unacceptable; and

Whereas, at my inauguration as Secretary of State on January 8, 2007, I announced my intention to conduct a top-to-bottom review of voting systems approved for use in California; and

Whereas, on March 22, 2007, I circulated for public comment draft criteria for a review of voting systems approved for use in California, covering system security issues, access for voters with disabilities, access for minority language voters, and usability for elections officials and poll workers; and

Whereas, on March 26, 2007, pursuant to my statutory obligations and to the conditions set forth in the approval, dated April 21, 2006, for use of the InkaVote Plus Precinct Ballot Counting System ("InkaVote Plus"), a copy of which is attached and incorporated herein by reference, I gave Election Systems and Software, Inc. ("ES&S"), written notice that it must provide within thirty days a working version of the InkaVote Plus voting system, including the source code for any software or firmware contained in the voting system and payment for the reasonable costs associated with the review of the source code; and

Whereas, on May 7, 2007, I gave ES&S written notice that all of the items previously requested must be delivered no later than May 11, 2007, followed by further written and oral demands on June 8, 2007, and June 15, 2007; and

ATTACHMENT 1

Whereas, the review of voting systems approved for use in California commenced on May 31, 2007, with a scheduled completion date of July 20, 2007, pursuant to a contract with the Regents of the University of California and conducted by experts selected and supervised by principal investigators from the computer science faculties of the Berkeley and Davis campuses, to determine if the voting systems are defective, obsolete, or otherwise unacceptable for use in the February 5, 2008, Presidential Primary Election and subsequent elections in California; and

Whereas, ES&S did not agree until June 25, 2007, to participate in the review, and did not provide all of the items requested for the review until June 26, 2007, when insufficient time remained to test the InkaVote Plus voting system; and

Whereas, on July 30, 2007, a duly noticed public hearing was held to give interested persons an opportunity to express their views regarding the InkaVote Plus voting system; and

Whereas, pursuant to Elections Code section 19222, I, as Secretary of State, am authorized to withdraw approval previously granted of any voting system or part of a voting system if I determine that voting system or any part of that voting system to be defective or otherwise unacceptable; and

Whereas, I have reviewed the InkaVote Plus voting system and I have reviewed and considered the public testimony presented at the duly noticed public hearing held on July 30, 2007, and comments submitted by letter, facsimile transmission, and electronic mail; and

Whereas, pursuant to Elections Code section 19222, six months' notice must be given before withdrawing approval previously granted of any voting system or part of a voting system unless I, as Secretary of State, for good cause shown, make a determination that a shorter period is necessary; and

Whereas, pursuant to Elections Code section 19222, any withdrawal by the Secretary of State of the previous approval of a voting system or part of a voting system is not effective as to any election conducted within six months of that withdrawal; now

Therefore, **I, Debra Bowen, Secretary of State for the State of California, find and determine, pursuant to Division 19 of the Elections Code, as follows:**

1. As set forth above, ES&S has failed to comply with the conditions set forth in the approval of the ES&S InkaVote Plus Precinct Ballot Counter voting system, dated April 21, 2006; and

2. By preventing the Secretary of State from conducting a periodic review of a voting system as mandated by statute, a vendor's failure to cooperate in the review of a voting system renders the voting system unacceptable pursuant to Elections Code section 19222;

***Therefore,* I, Debra Bowen, Secretary of State for the State of California, hereby order, pursuant to Division 19 of the Elections Code and Section 12172.5 of the Government Code, that:**

1. For the reasons set forth above, the ES&S InkaVote Plus Precinct Ballot Counter voting system, as approved on April 21, 2006, is unacceptable, and approval for its use in the February 5, 2008, Presidential Primary Election and all subsequent elections in California is withdrawn, effective immediately; and

2. For the reasons set forth above, the approval of the ES&S InkaVote Plus Precinct Ballot Counter voting system, dated April 21, 2006, is hereby rescinded for noncompliance with the conditions set forth therein, with respect to the February 5, 2008, Presidential Primary Election and all subsequent elections.

***Therefore,* I, Debra Bowen, Secretary of State for the State of California, further find and determine that:**

Pursuant to Elections Code section 19222, based on the late date at which it became apparent that the non-cooperation of ES&S would preclude review of the InkaVote Plus voting system, good cause exists establishing the need to shorten the six months' notice requirement for the withdrawal of approval of the ES&S InkaVote Plus Precinct Ballot Counter voting system, as specified above. I also find and determine that good cause exists to require such notice and rescission of the approval to be effective immediately in order to provide sufficient time for conducting subsequent elections in California fairly and efficiently, and to ensure the integrity of the elections process.

It is so found, determined, and ordered.

IN WITNESS WHEREOF, I execute this Certificate and affix the Great Seal of the State of California this 3rd day of August, 2007.

DEBRA BOWEN
Secretary of State

State of California

SECRETARY OF STATE

WITHDRAWAL OF APPROVAL OF DIEBOLD ELECTION SYSTEMS, INC., GEMS 1.18.24/AccuVote-TSX/AccuVote-OS DRE & OPTICAL SCAN VOTING SYSTEM AND CONDITIONAL RE-APPROVAL OF USE OF DIEBOLD ELECTION SYSTEMS, INC., GEMS 1.18.24/AccuVote-TSX/AccuVote-OS DRE & OPTICAL SCAN VOTING SYSTEM

Whereas, pursuant to Elections Code section 19201, no voting system, in whole or in part, may be used unless it has received the approval of the Secretary of State; and

Whereas, Elections Code section 19222 requires that I, as Secretary of State for the State of California, conduct periodic reviews of voting systems to determine if they are defective, obsolete, or otherwise unacceptable; and

Whereas, at my inauguration as Secretary of State on January 8, 2007, I announced my intention to conduct a top-to-bottom review of voting systems approved for use in California; and

Whereas, on March 22, 2007, I circulated for public comment draft criteria for a review of voting systems approved for use in California, covering system security issues, access for voters with disabilities, access for minority language voters, and usability for elections officials and poll workers; and

Whereas, pursuant to my statutory obligations, I have undertaken such a review of voting systems approved for use in California, including the Diebold Election Systems, Inc., GEMS 1.18.24/AccuVote-TSX/AccuVote-OS voting system, pursuant to a contract with the Regents of the University of California and conducted by experts selected and supervised by principal investigators from the computer science faculties of the Berkeley and Davis campuses, to determine if the voting systems are defective, obsolete, or otherwise unacceptable for use in the February 5, 2008, Presidential Primary Election and subsequent elections in California; and

Whereas, the study was completed on July 20, 2007, following which the expert reviewers delivered their written reports on their findings and methodology; and

Whereas, the expert reviewers found that the quality of the 2002 Voting System Standards (VSS) to which each of the three systems in their study were certified is inadequate, and noted further that questions have been raised about the effectiveness of the testing; for example, Ciber, Inc., a testing laboratory involved in testing of voting systems under the 2002 VSS, has been denied interim accreditation for testing voting systems by the Federal Election Assistance Commission after finding that Ciber "was not following its quality-control procedures and could not document that it was conducting all the required tests"; and

Whereas, the expert reviewers demonstrated that the physical and technological security mechanisms provided by the vendors for each of the voting systems analyzed were inadequate to ensure accuracy and integrity of the election results and of the systems that provide those results; and

Whereas, the expert reviewers reported that all of the voting systems studied contain serious design flaws that have led directly to specific vulnerabilities, which attackers could exploit to affect election outcomes; and

Whereas, the Diebold Source Code Review Team found that the Diebold software contains vulnerabilities that could allow an attacker to install malicious software on voting machines and on the election management system, which could cause votes to be recorded incorrectly or to be miscounted, possibly altering election results; and

Whereas, the Diebold Source Code Review Team found that the Diebold system is susceptible to computer viruses that propagate from voting machine to voting machine and even voting machines to the election management system, which could allow an attacker with access to only one voting unit or memory card to spread malicious code, between elections, to many, if not all, of a county's voting units; and

Whereas, the Diebold Source Code Review Team found that due to these shortcomings some threats would be difficult, if not impossible, to remedy with election procedures; and

Whereas, the Diebold Source Code Review Team found that both the electronic and paper records of the Diebold TSx direct recording electronic voting machine contain enough information to compromise the secrecy of the ballot; and

Whereas, the Diebold Red Team that conducted penetration testing on the Diebold voting system performed vulnerability scans of the Diebold voting system and discovered multiple vulnerabilities; and

Whereas, the Diebold Red Team members, with access only to the Windows operating system on the Diebold GEMS election management server supplied by Diebold and without requiring access to Diebold source code were able to access the Diebold voting system server software and to corrupt the election management system database, which could result in manipulated voter totals or the inability to read election results, rendering an election impossible to complete electronically; and

Whereas, without requiring access to Diebold source code, the Diebold Red Team members gained "root access" to the voting system that allowed manipulation of every setting on the networking devices and on the election management system server; and

Whereas, the Diebold Red Team members, without accessing Diebold source code, were able to violate the physical security of every aspect of the TSx direct recording electronic voting machine under polling place conditions using tools found in a typical office; and

Whereas, the Diebold Red Team members identified attacks on the TSx direct recording electronic voting machine that could allow a voter to delete all electronic records of ballots cast up to the time of the attack, including backup records; and

Whereas, the Diebold Red Team found a simple attack that can put the AVPM voter verifiable paper audit trail (VVPAT) printer out of service until the TSx unit is rebooted, using only tools that can be found in a typical office, in which voters who were not aware that they should expect a printed version of their ballot for review would not observe anything unusual, because the attack also causes the TSx to stop issuing reminders to voters that they should verify the printed record of their selections; and

Whereas, the Diebold Red Team members also found that the design of the AVPM VVPAT printer enabled attacks on the printed records of voter's ballots using a common household substance that could covertly destroy the VVPAT records, particularly notable because the attack (1) affects records printed before the attack is executed, (2) affects records printed after the attack is executed, (3) does not affect the way records are displayed to voters as they are produced – so as to avoid raising voter suspicion before the close of polls, (4) does not affect the printer mechanisms or jam the printer – again, to avoid raising suspicion, (5) the impact of these attacks is to make many of the VVPAT-printed records completely unreadable and most of them barely or only partially readable, destroying records already printed by the VVPAT at the time of the attack and potentially destroying all records produced throughout the rest of the day by that particular VVPAT, and (6) the attack is particularly viable on the TSx because the design of the VVPAT printer and the security casing for printed records allows the attack substance to linger undetected inside the machine until the end of election day; neither subsequent voters nor poll workers would know the attack had taken place until the printed records were removed at the end of Election Day; and

Whereas, the impact (once discovered) of the household substance attack on the VVPAT is highly visible, but when combined with an electronic attack that destroyed ballots, it could serve to effectively nullify most – if not all – of the votes cast on a particular TSx unit; and

Whereas, the Diebold Red Team members, without accessing Diebold source code, gained access to the election management server to manipulate and corrupt the election management system database; and

Whereas, some of these attacks could be carried out in a manner that is not subject to detection by audit, including review of software logs; and

Whereas, intellectual property is in any event notoriously difficult to protect against theft or unauthorized access, voting system source code being no less vulnerable; and

Whereas, Diebold left source code for one of its direct recording electronic voting machines unprotected on the Internet, from which it was downloaded and subsequently examined by many people, including computer security experts and other computer scientists; and

Whereas, a Diebold direct recording electronic voting machine was offered for sale on eBay, the Internet auction site; and

Whereas, tampering with optical scan equipment such as the Diebold AccuVote-OS precinct scanner and the AccuVote-OS Central Count can be readily detected and corrected through hand counting of the optical scan paper ballots marked and directly verified by voters; and

Whereas, voted and unvoted optical scan paper ballots can be secured through well-developed and tested physical security policies and procedures; and

Whereas, tampering with direct recording electronic voting machines such as the TSx can be difficult or impossible to detect, and is also difficult or impossible to correct through hand counting of VVPAT records, particularly when combined with successful attacks on VVPAT printing systems such as the AccuView Printer Module used with the TSx; and

Whereas, studies have shown that many voters do not review VVPAT records and that test voters who do review VVPAT records do not detect many discrepancies that have been intentionally introduced between selections shown on the paper record and selections shown on the review screen of a direct recording electronic voting machine; and

Whereas, on July 30, 2007, a duly noticed public hearing was held to give interested persons an opportunity to express their views regarding the review of various voting systems, including the Diebold Election Systems, Inc., GEMS 1.18.24/AccuVote-TSX/AccuVote-OS voting system. At this hearing, approximately 60 individuals testified. Many more submitted comments by letter, facsimile transmission, and electronic mail; and

Whereas, pursuant to Elections Code section 19222, I, as Secretary of State, am authorized to withdraw approval previously granted of any voting system or part of a voting system if I determine that voting system or any part of that voting system to be defective or otherwise unacceptable; and

Whereas, I have reviewed the Diebold GEMS 1.18.24/AccuVote-TSX/AccuVote-OS voting system and I have reviewed and considered several reports regarding the use of this voting system; the public testimony presented at the duly noticed public hearing held on July 30, 2007; and the comments submitted by letter, facsimile transmission, and electronic mail; and

Whereas, pursuant to Elections Code section 19222, six months' notice must be given before withdrawing approval previously granted of any voting system or part of a voting system unless

I, as Secretary of State, for good cause shown, make a determination that a shorter period is necessary; and

Whereas, pursuant to Elections Code section 19222, any withdrawal by the Secretary of State of the previous approval of a voting system or part of a voting system is not effective as to any election conducted within six months of that withdrawal; now

***Therefore*, I, Debra Bowen, Secretary of State for the State of California, find and determine, pursuant to Division 19 of the Elections Code, as follows:**

For the reasons set forth above, the Diebold Elections Systems, Inc., voting system, comprised of GEMS software, version 1.18.24, AccuVote-TSX with AccuView Printer Module and Ballot Station firmware version 4.6.4, AccuVote-OS (Model D) with firmware version 1.96.6, AccuVote-OS Central Count with firmware version 2.0.12, AccuFeed, Vote Card Encoder, version 1.3.2, Key Card Tool software, version 4.6.1, and VC Programmer software, version 4.6.1, which was previously approved, is found and determined to be defective or unacceptable and its certification and approval for use in subsequent elections in California is immediately withdrawn, except as specifically provided below.

1. In order to provide accessible balloting to voters with disabilities in compliance with HAVA, jurisdictions may use no more than one AccuVote-TSx per polling place on Election Day. To protect voter privacy, jurisdictions are required to ensure that at least five persons voluntarily cast their ballot on each such device over the course of Election Day.

2. The AccuVote-TSx may be used in early voting prior to Election Day, subject to the following restrictions:
   - After the close of the polls each day of early voting, all voting equipment must be secured against tampering and returned by jurisdiction elections employees for storage in a jurisdiction facility that meets the security standards that apply to the jurisdiction's election headquarters;
   - Early voting centers may only be staffed by jurisdiction elections employees;
   - The jurisdiction must staff the early voting so that one employee is responsible solely for monitoring the voting equipment to ensure no unauthorized access to the equipment occurs;
   - The jurisdiction must maintain a chain of custody log for each piece of equipment, in which two or more jurisdiction employees record, verify and sign off on the public counter numbers on the device, the integrity of the tamper-evident-seals and the serial number of those seals at the opening and closing of the polls each day of early voting; and
   - The jurisdiction must conduct a 100% manual count of all votes cast on an AccuVote-TSx.

3. The elections official must reset the encryption key used for all AccuVote-TSx units to change the key from the factory default setting to a unique value for each election prior to programming any units.

4. Before any use in the February 5, 2008, Presidential primary election, jurisdictions must reinstall all software and firmware (including reformatting all hard disk drives and reinstalling the operating system where applicable) on all election management system servers and workstations, voting devices and hardware components of the voting system. Voting system application software must be reinstalled using the currently approved version obtained directly from the federal testing laboratory or the Secretary of State.

5. Within 30 days of the date of this document, the vendor must present a plan and uniform jurisdiction-use procedures to the Secretary of State for approval that will prevent future viral propagation of malicious software from one system component to another, such as from a voting system component located in one precinct to voting system components located in other precincts. The plan and use procedures must incorporate, or employ methods at least as effective as, a configuration of parallel central election management systems separated by an "air-gap" where (1) a permanent central system known to be running unaltered, certified software and firmware is used solely to define elections and program voting equipment and memory cards, (2) a physically-isolated duplicate system, reformatted after every election to guard against the possibility of infection, is used solely to read memory cards containing vote results, accumulate and tabulate those results and produce reports, and (3) a separate computer dedicated solely to this purpose is used to reformat all memory devices before they are connected to the permanent system again. (This "air-gap" model was proposed by the Source Code Review Team that reviewed the Diebold Election Systems, Inc., GEMS 1.18.24 voting system. Further details concerning the model are provided in Section 6.10 of the Source Code Review of the Diebold Voting System, dated July 20, 2007, and available on the Secretary of State website at http://www.sos.ca.gov/elections/voting_systems/ttbr/diebold-source-public-jul29.pdf.)

6. Within 30 days of the date of this document, the vendor must submit to the Secretary of State for approval specifications for the hardware and operating system platform that must be used for all applicable components of the voting system. The vendor must identify the requirements for "hardening" the configuration of that platform, including, but not limited to:
   - BIOS configuration;
   - Identification of essential services that are required and non-essential services that must be disabled;
   - Identification of essential ports that are required and non-essential ports that must be disabled and, if feasible, removed or physically blocked;
   - Audit logging configuration;
   - Definition of user security roles and associated permissions to assure all users have only the minimum required permissions for their role;
   - Password policies, including password strength, expiration, and maximum attempts, along with all related user account control settings; and
   - All utilities and software applications, with specifications for their installation, configuration and use, that are necessary for operation of the voting system (e.g., security software, data compression utilities, Adobe Acrobat, etc.).

The vendor must identify automated mechanisms for jurisdictions to confirm and document that their system has been configured to these standards, and that all updatable components are the approved version and level. The vendor must provide full instructions for the use of these mechanisms, including expected results.

7. Immediately after any repair or modification of any voting system component, the integrity of the firmware and/or software must be verified using the automated mechanisms described above, or all software must be reinstalled by the jurisdiction from a read-only version of the approved firmware and/or software supplied directly by the federal testing laboratory or Secretary of State before the equipment can be put back into service.

8. Jurisdictions are prohibited from installing any software applications or utilities on any component of the voting system that have not been identified by the vendor and approved by the Secretary of State.

9. Within 30 days of the date of this document, the vendor must develop and submit to the Secretary of State for approval, a plan and procedures for timely identification of required security updates (e.g., operating system security patches, security software updates, etc), vendor testing of the updates, and secure distribution and application of vendor-approved security updates.

10. Within 45 days of the date of this document, the vendor, working with jurisdiction users, must develop and submit to the Secretary of State for approval, uniform requirements and use procedures for operating and maintaining the physical and logical security of the system, including, but not limited to:
    - Physical security and access to the system and all components;
    - Network security;
    - Data security (including data backup requirements and procedures); and
    - Separation of roles and responsibilities for jurisdiction personnel.

11. Network connections to any device not directly used and necessary for voting system functions are prohibited. Communication by or with any component of the voting system by wireless or modem transmission is prohibited at any time. No component of the voting system, or any device with network connectivity to the voting system, may be connected to the Internet, directly or indirectly, at any time.

12. Within 45 days of the date of this document, the vendor, working with jurisdiction users, must develop and submit to the Secretary of State for approval, detailed uniform requirements and use procedures for programming, pre- and post-election logic and accuracy testing, transporting and operating voting equipment that will prevent or detect unauthorized access to or modification of any component of the voting system, including, but not limited to:
    - Application of two-person rule;
    - Chain of custody controls and signature-verified documentation;
    - Requirements for secure interim storage of any system component; and
    - Employment of mechanisms to detect unauthorized access to the equipment.

13. Where tamper-evident seals are required to detect unauthorized access to a system component, those seals must be serialized and the vendor must specify in each instance the type of the seal to be used and the exact placement of that seal using photographs.

14. Upon request, members of the public must be permitted to observe and inspect, without physical contact, the integrity of all externally visible security seals used to secure voting equipment in a time and manner that does not interfere with the conduct of the election or the privacy of any voter.

15. Where voting equipment is used to record and tabulate vote results in a polling place, upon close of the polls, the poll workers are required to print two copies of the accumulated vote results and audit log from each device. Each poll worker must sign every copy. One copy of the vote results and audit log from each device must be publicly posted outside the polling place. The second copy must be included with the official election material that is returned to the jurisdiction headquarters on election night.

16. No poll worker or other person may record the time at which or the order in which voters vote in a polling place.

17. Poll workers are not permitted to have access to any AVPM audit records, nor may they participate in any audits or recounts involving AVPM audit records.

18. Within 60 days of the date of this document, the vendor, working with jurisdiction users, must develop and submit to the Secretary of State for approval, specific detailed uniform requirements and use procedures for vote results auditing and reconciliation, review of audit logs and retention of election documentation to validate vote results and detect unauthorized manipulation of vote results, including, but not limited to:
    - Precinct level ballot accounting;
    - Identification of abnormal voting patterns on AVPM audit trails;
    - Escalation of audit sampling when significant discrepancies exist between electronic and manual audit vote results; and
    - Reconciliation of discrepancies between electronic and manual audit vote results.

19. Any post-election auditing requirements imposed as a condition of this certification shall be paid for by the vendor. Jurisdiction users are required to conduct the audits and the vendor is required to reimburse the jurisdiction.

20. After consultation with jurisdiction users, the Secretary of State shall establish additional post-election manual count auditing requirements, including:
    - Increased manual count sample sizes for close races, based on an adjustable sample model, where the size of the initial random sample depends on a number of factors, including the apparent margin of victory, the number of precincts, the number of ballots cast in each precinct, and a desired confidence level that the winner of the election has been called correctly. In establishing sampling requirements for close races, the Secretary of State may impose a specific sampling threshold for a given vote differential or percentage of the margin of victory, taking into account the number of electors and the number and size of precincts in the race;

- Escalation requirements for expanding the manual count to additional precincts when discrepancies are found; and
- Uniform procedures to increase transparency and effectiveness of post-election manual count audits.

21 User jurisdictions are required to conduct a 100% manual count audit of the electronic results tabulated on each DRE machine in use on Election Day.

22. Each polling place must be equipped with a method or log in a format specified by the Secretary of State after consultation with the jurisdiction users to record all problems and issues with the voting equipment in the polling place as reported by voters or observed by poll workers. Such records must include the following information for each event:
- Date and time of occurrence;
- Voter involved, if any;
- Equipment involved;
- Brief description of occurrence;
- Actions taken to resolve issue, if any; and
- Election official(s) who observed and/or recorded the event.

23. All such event logs or reports must be made available to the public for inspection and review upon request. Prior to or concurrent with the certification of the election, the jurisdiction election official must submit a report to the Secretary of State of all reported problems experienced with the voting system and identifying the actions taken, if any, to resolve the issues.

24. Training of poll workers must include the following:
- Secure storage of voting equipment while in the poll worker's possession;
- Chain-of-custody procedures (including two person rule) required for voting equipment and polling place supplies;
- Seal placement and procedures for verification of seal integrity;
- Placement and observation of voting equipment;
- Observation of activity that could indicate tampering or an attempt at tampering;
- The Voter Bill of Rights set forth in section 2300 of the Elections Code;
- The purpose served by the Voter Verified Paper Audit Trail (VVPAT), the importance of its use by voters, and how to handle problems such as paper jams;
- How to ensure that a minimum of five voters vote on each DRE in a polling place;
- The public right to inspect voting equipment and security seals, and how to handle requests for such inspection;
- How to handle equipment failure or lack of sufficient paper ballots in a polling place and how to ensure continuity of the election in the event of such a failure; and
- How to properly log all events and issues related to voting equipment in the polling place, including voter complaints of malfunctioning equipment.

25. All voters voting on paper ballots must be provided a privacy sleeve for their ballot and instructed on its use.

26. A warning must be posted in each voting booth stating that, pursuant to Elections Code sections 18564, 18565, 18566, 18567, 18568 and 18569, tampering with voting equipment or altering vote results constitutes a felony, punishable by imprisonment.

27. With respect to any piece of voting equipment for which the chain of custody has been compromised or for which the integrity of the tamper-evident seals has been compromised, the following actions must be taken:
- The chief election official of the jurisdiction must be notified immediately;
- The equipment must be removed from service immediately and replaced if possible;
- Any votes cast on the device prior to its removal from service must be subject to a 100% manual audit as part of the official canvass;
- Any memory card containing data from that device must be secured and retained for the full election retention period;
- An image of all device software and firmware must be stored on write-only media and retained securely for the full election retention period; and
- All device software and firmware must be reinstalled from a read-only version of the approved firmware and software supplied directly by the federal testing laboratory or the Secretary of State before the equipment is placed back into service.

28. If a voting device experiences a fatal error from which it cannot recover gracefully (i.e., the error is not handled through the device's internal error handling procedures with or without user input), such that the device must be rebooted or the device reboots itself to restore operation, the following actions must be taken:
- The chief election official of the jurisdiction must be notified immediately;
- The equipment must be removed from service immediately and replaced as soon as possible;
- Any votes cast on the device prior to its removal from service must be subject to a 100% manual audit over and above the normal manual audit conducted during the official canvass;
- Any memory card containing data from that device must be secured and retained for the full election retention period;
- An image of all device software and firmware must be stored on write-only media and retained securely for the full election retention period;
- The vendor shall provide an analysis of the cause of the failure;
- Upon request by the Secretary of State, the vendor shall retain the device for a reasonable period of time to permit forensic analysis; and
- All device software and firmware must be reinstalled from a read-only version of the approved firmware and software supplied directly by the federal testing laboratory or the Secretary of State before the equipment is placed back into service.

29. The Secretary of State will review and finalize all plans, requirements and procedures submitted pursuant to the foregoing requirements above within thirty days of receipt. Upon approval, all such plans, requirements and procedures will automatically be incorporated into the official use procedures for the voting system, and will become binding upon all users of the system.

30. No substitution or modification of the voting system shall be made with respect to any component of the voting system, including the Use Procedures, until the Secretary of State has been notified in writing and has determined that the proposed change or modification does not impair the accuracy and efficiency of the voting system sufficient to require a re-examination and approval.

31. The Secretary of State reserves the right, with reasonable notice to vendor and to the counties using the voting system, to modify the Use Procedures used with the voting system and to impose additional requirements with respect to the use of the system if the Secretary of State determines that such modifications or additions are necessary to enhance the accuracy, reliability or security of any of the voting system. Such modifications or additions shall be deemed to be incorporated herein as if set forth in full.

32. Any county using this voting system shall, prior to such use in each election, file with the California Secretary of State a copy of its Election Observer Panel plan.

33. The vendor agrees in writing to provide, and shall provide, to the Secretary of State, or to the Secretary of State's designee, within 30 days of the Secretary of State's demand for such, a working version of the voting system, including all hardware, firmware and software of the voting system, as well as the source code for any software or firmware contained in the voting system, including any commercial off the shelf software or firmware that is available and disclosable by the vendor, provided that the Secretary of State first commits to the vendor in writing to maintain the confidentiality of the contents of such voting system or source code so as to protect the proprietary interests of the vendor in such voting system or source code. The terms of the commitment to maintain confidentiality shall be determined solely by the Secretary of State, after consultation with the vendor. The voting system shall not be installed in any California jurisdiction until the vendor has signed such an agreement. Any reasonable costs associated with the review of the source code for any software or firmware contained in the voting system shall be born by the vendor.

34. The Secretary of State reserves the right to monitor activities before, during and after the election at any precinct or registrar of voters' office, and may, at his or her discretion, conduct a random parallel monitoring test of voting equipment.

35. By order of the Secretary of State, voting systems certified for use in California shall comply with all applicable state and federal requirements, including, but not limited to, those voting system requirements as set forth in the California Elections Code and the Help America Vote Act of 2002 and those requirements incorporated by reference in the Help America Vote Act of 2002. Further, voting systems shall also comply with all state and federal voting system guidelines, standards, regulations and requirements that derive authority from or are promulgated pursuant to and in furtherance of California Elections Code and the Help America Vote Act of 2002 or other applicable state or federal law when appropriate.

36. Voting system manufacturers or their agents shall assume full responsibility for any representation they make that a voting system complies with all applicable state and

federal requirements, including, but not limited to, those voting system requirements as set forth in the California Elections Code and the Help America Vote Act of 2002 and those requirements incorporated by reference in the Help America Vote Act of 2002. In the event such representation is determined to be false or misleading, voting system manufacturers or their agents shall be responsible for the cost of any upgrade, retrofit or replacement of any voting system or its component parts found to be necessary for certification or otherwise not in compliance.

37. Any voting system purchased with funds allocated by the Secretary of State's office shall meet all applicable state and federal standards, regulations and requirements, including, but not limited to, those voting system requirements as set forth in the California Elections Code and the Help America Vote Act of 2002 and those requirements incorporated by reference in the Help America Vote Act of 2002.

38. The vendor must establish a California County User Group and hold at least one annual meeting where all California users and Secretary of State staff are invited to attend and review the system and ensure voter accessibility.

39. In addition to depositing the source code in an approved escrow facility, the vendor must deposit with the Secretary of State a copy of the system source code, binary executables and tools and documentation, to allow the complete and successful compilation and installation of a system in its production/operational environment with confirmation by a verification test by qualified personnel using only this content. The Secretary of State reserves the right to perform a full independent review of the source code at any time.

40. The vendor must provide printing specifications for paper ballots to the Secretary of State. The Secretary of State will certify printers to print ballots for this system based upon their demonstrated ability to do so. The vendor may not require exclusivity in ballot printing and must cooperate fully in certification testing of ballots produced by other ballot printers.

IN WITNESS WHEREOF, I hereunto set my hand and affix the Great Seal of the State of California, this 3rd day of August, 2007.

Debra Bowen

DEBRA BOWEN
Secretary of State

L.A. COUNTY VOTERS USING TOUCHSCREEN EARLY VOTING: HISTORY AND STATISTICS 2000-2007

Touchscreen voting was first initiated in Los Angeles County (County) as a pilot program in conjunction with the November 2000 Presidential General Election. Following its successful launch and the widespread public approval of the opportunity to vote early via touchscreen during the two weeks before election day at a choice of 11 sites, an RFP was issued in 2002. Of the responding bidders, a multi-department evaluation committee determined that only Diebold was able to demonstrate the technological capacity to fulfill the requirement to load several thousand individual ballot combinations (various election contests throughout the County) as well as the seven languages mandated in Los Angeles County. A Board-approved contract was awarded in August 2002 to purchase 171 Diebold TS touchscreen voting units, the related software and system support services.

The system was deployed for early voting at 16 sites across the County in conjunction with the November 2002 Gubernatorial General Election. Subsequently, the system was continuously used for every statewide election including the October 2003 Gubernatorial Recall Election, the March 2004 Primary Election, the November 2004 Presidential General Election and the November 2005 Special Statewide Election. Due to a change in state law requiring all touchscreen voting units to be equipped with a voter verified paper audit trail (VVPAT) printer before the 2006 election cycle, the County upgraded the system to the VVPAT-compatible TSX equipment. The TSX units were deployed at 17 early voting sites for the June 2006 Primary Election and the November 2006 Gubernatorial General Election and utilized by tens of thousands of voters throughout the County.

Since the inception of the program, 214,179 voters in Los Angeles County have used the Diebold touchscreen system during the early voting period. Experience has revealed that many of these voters wait until the last three days of early voting to cast their ballots, i.e. after the deadline to mail them an absentee ballot has expired. For example, in conjunction with the November 2004 Presidential Election, fully 26,596 of the 65,680 early voters cast their ballots during the last three days of the early voting period. Through interviews and surveys of these voters, we have learned that most had recently found out they were going to be out of town on election day or another unexpected event had just occurred that would preclude them from voting on election day. While early voters we surveyed indicated a 95+% approval of the system, the voters who flock to the sites in the closing days have expressed the most gratitude for the opportunity to vote early at their choice of a convenient site (prior to inaugurating the early voting program seven years ago, anyone needing to vote in the days prior to election day was required to travel to Norwalk).

The City of Los Angeles (City) has also offered early voting using the County's touchscreen equipment for several elections conducted by the Los Angeles City Clerk. Most recently, the City offered voters the option of early voting for the March and May 2007 elections which involved candidates for the City of Los Angeles, Los Angeles Unified School District and Los Angeles Community College District.

Similar to other aspects of life, voters like options so that they are able to fit voting into their busy lives. For the past seven years, County voters have been offered the option of voting before election day either by mail or via touchscreen early voting or they can go to their neighborhood voting location on election day. Our popular slogan has been "*Three choices, No Excuses*!"

Secretary of State Bowen's August 3, 2007 orders regarding the ability of counties to continue to use the Diebold TSX system, beginning with the February 5, 2008 Presidential Primary Election, impose sweeping restrictions which may render it impossible or infeasible to continue to offer this popular early voting program to Los Angeles County's voters.

ATTACHMENT 2

Election Systems & Software
MAINTAINING VOTER CONFIDENCE. ENHANCING THE VOTING EXPERIENCE.
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www.essvote.com

August 10, 2007

Lowell Finley
Deputy Secretary of State
Voting Systems Technology and Policy
1500 11th Street, 6th Floor
Sacramento, CA 95814

RE: Purposed Decertification Order of InkaVote Plus Voting System

Dear Deputy Secretary Finley:

On behalf of Election Systems & Software, Inc. (ES&S), I am writing to request information in regard to the purposed decertification order issued by the Secretary of State's office (SOS) Friday, August 03, 2007. As ES&S did not receive notice of any scheduled public meeting to discuss the possible decertification of the InkaVote Plus voting system, ES&S would like to formally request a meeting with the SOS to review the circumstances surrounding the proposed decertification and the status of the Secretary's review of the InkaVote voting system.

It was ES&S' understanding from its last communication (dated July 5, 2007) with the SOS that the InkaVote Plus voting system was being reviewed separately in order to ensure compliance with the SOS' top-to-bottom review plan — the same review process which the SOS conducted on other voting system vendors' systems. While we understand that the top-to-bottom review of the InkaVote Plus voting system was being delayed, it was never ES&S' understanding that the SOS would propose decertification without having first reviewed the InkaVote system.

In addition, it was ES&S' understanding that the SOS received all the required materials necessary to initiate and complete its review of the InkaVote Plus voting system. Further, ES&S representatives have been available to assist the SOS in any way possible to ensure its review is conducted as expeditiously and effectively as possible. It is our belief that the SOS has all of the information needed to conduct the review and we stand ready to assist in any way possible.

We are requesting information regarding how the top-to-bottom review process is moving forward. In order to ensure the InkaVote system is reviewed in a timely manner and that the SOS continues to have everything needed for the review, ES&S requests that the SOS establish a weekly update call or meeting with ES&S to discuss the status of the top-to-bottom review, any proposed timelines on completing

ATTACHMENT 3

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the review, and any other items either party may need to discuss in order to complete the review.

As you can appreciate and understand, ES&S is committed to ensuring that voters of Los Angeles County are able to continue to use the InkaVote Plus voting system and ES&S looks forward to the results of the review.

ES&S looks forward to your reply and support in continuing to ensure that the voters in the state of California will be able to utilize the secure, accurate, and reliable InkaVote system.

Best regards,

Steven M. Pearson
Election Systems & Software, Inc.

cc: The Honorable Debra Bowen, Secretary of State
Aldo J. Tesi, ES&S
John S. Groh, ES&S
Lou Dedier, ES&S
Connie McCormack, Los Angeles County Register – Recorder/County Clerk
Steve Weir, President, California Association of Clerks & Elections Officials

COUNTY OF LOS ANGELES
BOARD OF SUPERVISORS

KENNETH HAHN HALL OF ADMINISTRATION
500 WEST TEMPLE STREET, ROOM 383
LOS ANGELES, CALIFORNIA 90012
(213) 974-1411 • FAX (213) 620-0636

SACHI A. HAMAI
EXECUTIVE OFFICER

MEMBERS OF THE BOARD

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MICHAEL D. ANTONOVICH

August 10, 2007

The Honorable Debra Bowen
Secretary of State
1500 11th Street, 6th Floor
Sacramento, CA 95814

Dear Secretary Bowen:

COUNTY OF LOS ANGELES VOTING SYSTEMS

We look forward to working with your Office as we endeavor to ensure a sound, secure and effective voting system for the voters of Los Angeles County in the February 2008 Presidential Primary and subsequent elections. Please be assured we share your Office's high priority in meeting this objective and stand ready to assist and cooperate in any way necessary to promote the recertification of our InkaVote Plus system. While your concerns related to this system led to your decision to decertify it on August 3, 2007, we have been very encouraged by your subsequent comments expressing optimism that it can be recertified following testing by your Office.

Background/Use -- InkaVote Plus System

As you know, Los Angeles County purchased the InkaVote Plus system in 2006 to fulfill our obligations to comply with two key provisions of the Help America Vote Act (HAVA) regarding 1) disability access, including the ability for blind and otherwise disabled voters to cast ballots independently, and 2) error-detection regarding overvotes, which occur when voters mistakenly mark their ballots for more candidates than allowed, and providing the opportunity for votes to correct their errors and cast the ballots as intended.

The InkaVote Plus equipment was successfully used for the first time countywide for the November 2006 General Election. Tens of thousands of the County's voters were alerted regarding inadvertent errors and expressed appreciation for the opportunity to correct their voting mistakes prior to casting their ballots. Hundreds of other voters utilized the new disability access equipment to enhance their voting experience.

To date this year, the InkaVote Plus equipment has been used for the March and May City of Los Angeles elections; the May 15 Special 39th State Assembly District Election; the June 5 Palos Verdes Peninsula Unified School District Special Election; the June 12 Wiseburn School District Special Election; and the 37th Congressional District Special Primary Election on

June 26. The InkaVote Plus equipment was not used to count votes in any of these elections, but rather to comply with Federal and State laws regarding disability access and to offer all voters overvote protection. The County's internally developed Micro Tally System (MTS) has always been used for all tabulation of InkaVote ballots. Per our July 3, 2007, Agreement with you, the MTS System is not involved in your voting systems review.

This equipment will next be used for the 37th Congressional District Special (Runoff) General Election on August 21, followed by the September 25 Lynwood City Special Recall Election, and then the November 6 Uniform District Elections (multiple school districts, special districts and cities elections will be on that ballot).

Next Steps

As we are sure you appreciate, due to the size and complexity of election administration in Los Angeles County, advanced preparation for the February 5, 2008, Presidential Primary Election has already begun. As stressed above, we will ensure County staff works closely with your Office to provide any support or assistance your Office may require to expedite the testing and recertification process. Please let us know what additional information or documentation we can provide that would speed this effort.

Once again, thank you for this opportunity to partner on this shared and critical objective.

Sincerely,

ZEV YAROSLAVSKY
CHAIRMAN
SUPERVISOR, 3RD DISTRICT

GLORIA MOLINA
SUPERVISOR, 1ST DISTRICT

YVONNE B. BURKE
SUPERVISOR, 2ND DISTRICT

DON KNABE
SUPERVISOR, 4TH DISTRICT

MICHAEL D. ANTONOVICH
SUPERVISOR, 5TH DISTRICT

COUNTY OF LOS ANGELES
REGISTRAR-RECORDER/COUNTY CLERK
12400 IMPERIAL HWY. – P.O. BOX 1024, NORWALK, CALIFORNIA 90651-1024 (562) 462-2716

CONNY B. McCORMACK
Registrar-Recorder/County Clerk

See page 2

July 19, 2007

Mr. David Jefferson
Chair, Post-Election Audit Standards Working Group
Center for Applied Scientific Computing
Lawrence Livermore National Lab
7000 East Avenue
Livermore, CA 94550

VIA ELECTRONIC MAIL

Dear Mr. Jefferson:

As a follow-up to our conference call last week when you and members of the Post-Election Audit Standards Working Group requested written documentation regarding the 1% manual tally procedures and costs in Los Angeles County, our key election managers have compiled the following information:

1% Manual Tally Reports

Attachment Group 1A: Report1_Summary.pdf, Report2_ProceduresPrec.pdf, Report3_ProceduresAV.pdf

Attachment Group 1B: Report4_TallySheets.pdf, Report5_Overview.pdf, Report6_Operation.pdf

Report 1 lists the recap summary comparison results of the ballots tallied by computer and by hand for 50 randomly selected precincts and the 38 additional precincts that were selected to cover remaining contests in the November 2006 General Election. **Reports 2** and **3** provide procedures used by tally supervisors and clerks in the 1% manual tally operation. **Report 4** provides scan samples of actual tally sheets used in the 1% manual tally operation. **Report 5** provides a general overview of the 1% Manual Tally Process. This report is available for public distribution to interested observers. **Report 6** provides staffing and workload statistics of the operation.

Official Canvass Manuals

Attachment Group 2: Roster Rec Ops Manual.pdf, Ballot Remake Ops Manual.pdf, Observer Guidelines.pdf

The **Roster Reconciliation Operation Manual** covers various processes of the official canvass operation including data entry, signature tabulation and provisional ballot envelope

comparison. The **Ballot Remake Operation Manual** covers duplication or enhancement procedures for absentee and precinct ballots and the various sub-categories therein (provisional, write-in, damaged and withheld ballots); and the **Canvass Observer Guidelines** cover general rules/regulations for observing canvass activities. These guidelines are made available to all visitors/observers throughout the canvass period.

Touchscreen, Snap and Absentee Tallies

Attachment Group 3: Audit1_TSX.pdf, Audit2_Absentee.pdf, Audit3_Snap.pdf

These three reports detail additional voting system integrity and audit processes our staff conducted following the November 2006 General Election for electronically voted ballots, absentee ballots, and news media/voting trend comparison "snap tally" results.

Manual Count Cost Summary – General Elections

Attachment Group 4: Manual Count Costs – Nov 06.pdf

This report details the cost of the existing 1% manual count for the November 2006 General Election and the estimated costs of the manual count with the addition of absentee ballots for that same election.

As these documents reveal, conducting the required manual tally process in Los Angeles County in conjunction with the November 2006 General Election involved hand counting 25,526 ballots from 88 of Los Angeles County's 5,028 precincts. This computes to a manual tally of 1.7% of our precincts' ballots. As there were 52 contests on the ballot, the actual number of votes tallied, in order to compare and verify the vote results in each contest with the computerized count, entailed painstakingly hand-counting between 500,000 and 1,000,000 votes (depending upon how many selections each voter either voted or skipped on his/her ballot). This labor-intensive manual tally and comparison process required a staff of 50 employees working 10 hours a day, 7 days a week from November 11 through certification of the election on November 27.

To reiterate some of the key points we highlighted on the conference call, the costs – both financially and operationally – to conduct the current, legally-required process, which is specifically defined in the California Elections Code, is significant and extensive. For the November 2006 General Election in Los Angeles County the $207,508 cost of conducting the 1% manual audit would have increased by $73,000 if absentee ballots had been included. As you know, prior to 2007, there was no requirement to include absentee ballots in the 1% manual tally process. However, a new State law passed by the Legislature and signed by the Governor last year (AB 2769) expanded the process to include absentee ballots. Therefore, beginning this year, and for all future elections, absentee ballots will be included in the 1% manual tally process thereby creating additional expense.

It is my understanding that your Working Group is considering making a recommendation to Secretary of State Debra Bowen to expand the current manual tally process to increase the percentage of hand counted ballots and/or the number of ballots in identified contests. As a point of reference as to the significance of such a recommendation, the cost in Los Angeles County would grow to approximately $500,000+ in each statewide election if the manual tally

percentage requirement was increased from 1% to 2% of the ballots cast. This was a subject of discussion in a recent conference call between representatives of the Los Angeles County Board of Supervisors and Secretary Bowen with regard to potential conditions the Secretary may impose on the certification of voting systems. There was clear recognition in that conference call of the significant costs and impacts of expanding the existing 1% manual tally.

As Los Angeles County represents approximately one-fourth of the State's registered voters, the statewide cost of expanding the manual tally would likely entail an additional $1+ million per statewide election or a total of $3+ million in conjunction with the three statewide elections in 2008 alone. In addition to such a large financial impact, the staffing logistics would require hiring, training and deploying significantly more personnel to accomplish the work within the allowable 28-day canvass period. Given physical space constraints, in Los Angeles County this would necessitate operating multiple shifts – including a night shift – of workers and supervisors to complete any expanded manual tally process within the legally-permitted timeframe prior to official certification of the results.

As was also mentioned on last week's conference call, it is vital to clarify the distinction between the separate processes of the 1% random manual tally procedure versus a candidate/voter requested recount. The legally-required 1% manual tally process occurs prior to certification of official results and involves hand counting all contests on each ballot cast in a randomly selected 1% of the voting precincts in order to verify the accuracy of the vote tally system. Conversely, a candidate/voter-initiated recount can only be requested and occur after the certification of official election results and involves only one electoral contest in which the final result shows a very small number of votes separating the winner from the loser. Candidates who request recounts following official certification are seeking to overturn the published result. This goal is quite different from the intent and purpose of the legally-mandated 1% manual tally conducted during canvass, prior to declaration of official results. Races cannot be overturned as a result of a 2%, 3%, or 4% "audit", as California law specifies that only a 100% manual recount can change the certified result of an election. A recount is initiated and paid for by the candidate or voter seeking the recount. In the rare instances in which a complete recount overturns the certified election results, the funds deposited by the candidate/voter to pay for the recount are then refunded.

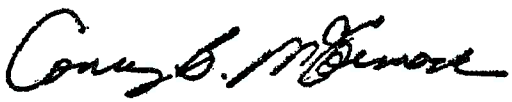
The purpose of the required 1% manual tally is to verify the computerized vote count in all of the election contests on the ballot. Over the past 40 years, performing this 1% manual tally process in an open and transparent manner has drawn praise from numerous candidates and election observers who have attended and commented positively on the process. However, it has also been our experience that a losing candidate involved in an electoral contest with a razor-thin, extremely small difference between himself/herself and the declared winner invariably seeks a recount involving a request to manually tally all of the ballots cast in those precincts involved in his/her contest.

We are also concerned about representations that have been made that your Working Group "will report...suggested guidelines for reconciling manual audit and machine count results." This portion of the Working Group's mission suggests that reconciliation is a complex and uniform process that requires formal guidelines. We would suggest that "reconciliation", in this limited arena, is a basic subtraction process – the votes recorded by the machine are compared, one precinct and one contest at a time to a manual tally. Formalized "reconciliation guidelines" seem premature without first establishing and defining the need for such guidelines.

As shown above, the costs to taxpayers would be high if the current 1% manual tally process, as specified in the Elections Code, were expanded. Should the State Legislature desire to hold hearings and subsequently pass legislation signed by the Governor to alter the provisions of the Elections Code with regard to the manual vote counting provisions, our assumption is that counties would be entitled to claim reimbursement from the State for the significant additional costs.

I want to thank you and the members of the Post-Election Audit Standards Working Group, in advance, for your consideration of this information and its relevance to the recommendations and report you will be making to the Secretary of State. Should you or any members of the Working Group desire further clarification regarding the enclosed documents, please do not hesitate to call me.

Sincerely,



Conny B. McCormack
Registrar-Recorder/County Clerk

c: Secretary of State Debra Bowen
Senator Ron Calderon, Chair, Elections, Reapportionment & Constitutional Amendments Committee
Assemblyman Curren Price, Chair, Elections & Redistricting Committee
Members, Los Angeles County Board of Supervisors
Evan Goldberg, Chief Deputy Secretary of State
Lowell Finley, Deputy Secretary of State
Jennifer Luckie-Bratt, Post-Election Audit Standards Working Group

DEBRA BOWEN
CALIFORNIA SECRETARY OF STATE
NEWS RELEASE

DB07:032

FOR IMMEDIATE RELEASE
June 28, 2007

Contact: Nicole Winger
(916) 653-6575

Secretary of State Debra Bowen Establishes New Working Group to Evaluate Post-Election Audit Standards

SACRAMENTO – In her continuing effort to ensure the security, accuracy, reliability and accessibility of California voting systems and the elections in which they are used, Secretary of State Debra Bowen today announced the creation of a Post-Election Audit Standards Working Group charged with examining whether the post-election audit standards in California should be strengthened.

While many states have no obligation to manually audit election results, California law requires counties to conduct a manual tally of 1% of the precincts following each election. Congress is currently considering legislation to set a national standard that could require higher percentages of election results to be audited in a post-election hand count.

"California's 1% audit law is 40 years old, and I want to know how effective it is and whether there are better models for auditing election results and maximizing voters' confidence in the electoral process," said Secretary Bowen, the state's chief elections officer.

Bowen tapped the following experts in the fields of computer science, financial auditing, statistical analysis, election reform advocacy, and city and county government to form the Post-Election Audit Standards Working Group:

- David Jefferson (Chairperson)
  Center for Applied Scientific Computing, Lawrence Livermore National Laboratory
- Kim Alexander
  President and Founder, California Voter Foundation
- Elaine Ginnold
  Registrar of Voters, Marin County
- Amy Lehmkuhl
  Certified Public Accountant, Ueltzen & Company, LLP
- Kathleen Midstokke
  City Clerk, City of Downey
- Philip Stark
  Professor of Statistics, University of California, Berkeley

-- MORE --

Over the next four weeks, the Post-Election Audit Standards Working Group will review a variety of post-election audit models and consider the advantages and disadvantages of various models and procedures. The group will report to Secretary Bowen the options for developing and implementing additional auditing requirements that could enhance the reliability of election results, as well as suggested guidelines and procedures for reconciling manual audit and machine count results.

"No matter what voting systems California counties use, we have to make sure we're doing meaningful audits of election results to provide voters with the confidence that every vote is counted as it was cast," Bowen continued. "The goal of this working group is to take a fresh look at the post-election auditing being done now, and draw on experts in the field to better understand the benefits and challenges of the new auditing models out there."

The Post-Election Audit Standards Working Group will hold its first public forum on Monday, July 2, at 11:00 a.m. in the auditorium of the Secretary of State building in Sacramento. Public comments are encouraged.

Secretary Bowen is simultaneously conducting a top-to-bottom review of voting systems currently certified for use in California elections. Unprecedented in its thoroughness, the top-to-bottom review is a comprehensive expert review of all software, hardware, source code and documents, testing everything from usability for people with limited physical abilities to security vulnerabilities that could enable tampering. The results of that review are expected by the end of July.

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COUNTY OF LOS ANGELES
REGISTRAR-RECORDER/COUNTY CLERK
12400 IMPERIAL HWY. – P.O. BOX 1024, NORWALK, CALIFORNIA 90651-1024 (562) 462-2716

CONNY B. McCORMACK
Registrar-Recorder/County Clerk

December 4, 2006

TO: Each Supervisor

FROM: Conny B. McCormack, Registrar-Recorder/County Clerk

NOVEMBER 2006 ELECTION REPORT: MANUAL TO MACHINE COUNT COMPARISON OF RANDOMLY SELECTED 5% ELECTRONIC TOUCHSCREEN VOTING UNITS

At the Board meeting on October 24, 2006, upon motion by Supervisor Zev Yaroslavsky, your Board instructed the Registrar-Recorder/County Clerk (RR/CC) to:

1. Conduct an audit of votes cast on no fewer than 5% of the Direct Recording Electronic (DRE or "Touchscreen") devices used for early voting in the November 7, 2006 Gubernatorial General Election (November 2006 General) that includes comparing the votes recorded on the Voter-Verifiable Paper Audit Trail (VVPAT) with the votes recorded on DRE memory card vote tally system count for a random selection of contests; and

2. Report back to the Board with the findings of the manual count by December 5, 2006, the statutory deadline for the official election certification.

Introduction

The California Elections Code requires each local election official to conduct a manual count of all contests on ballots cast in a randomly selected 1% of the election day voting precincts in order to verify the accuracy of the machine count. This manual tally occurs during the 28-day vote canvassing period prior to official certification of election results and augments extensive pre-election testing activities to demonstrate the integrity of the vote tabulation system.

In addition to the manual count audit required by the State Elections Code as described above, and in the interest of enhancing public confidence in the County's multiple voting systems, your Board requested two additional manual to machine count audits in conjunction with the November 2006 Election. Additionally, the Registrar-Recorder/County Clerk (RR/CC) decided to conduct a third supplemental manual audit of a sampling of absentee by mail ballots. A chart of all four audits is found at Attachment 1 following the appendices.

This report addresses the manual to machine count comparison of a randomly selected 5% of the DRE or Touchscreen voting units deployed in conjunction with Early Voting during the November 2006 General Election. A separate report will be issued tomorrow to address the other Board-requested report with regard to "snap tally" precincts in conjunction with the November 2006 Election. A report of findings of the RR/CC's audit of absentee by mail ballots will be issued later this week.

Background

Los Angeles County has been using Diebold DRE devices for Touchscreen Early Voting (TEV) in conjunction with all major elections since November 2000 without experiencing technical or security problems with the preparation, deployment and use of these devices to accurately tally votes cast. The TEV period typically begins the 2nd Wednesday before Election Day, and concludes ten (10) days later on the Friday before Election Day (the exception is RR/CC Norwalk headquarters where Touchscreen voting begins two weeks earlier and continues through Election Day to correspond with the entire period of availability of absentee voting).

Depending on anticipated voter turnout, the RR/CC establishes between 15 and 20 TEV sites throughout the County. Historically, approximately 1% to 2% of the County's voters avail themselves of the convenience of voting on DRE devices at their choice of location during the TEV period. For the November 2006 election, 24,686 or 1.2% of the 2,033,199 voters countywide cast their ballots using the DRE equipment.

Following the November 2004 Presidential Election, discussions about the accuracy and reliability of electronic voting equipment began to accelerate around the country. In response, State law was passed in 2005 requiring all electronic touchscreen voting equipment in California to be equipped with a voter-verifiable paper audit trail (VVPAT) beginning with elections in 2006.

Continual public concerns culminated in your Board's October 24, 2006 motion instructing the RR/CC to conduct a manual count using the VVPAT paper rolls and report back on a comparison of manual to machine counts on a randomly selected 5% of the 150 Diebold AccuVote-TSX with VVPAT devices used for TEV during the November 2006 General Election.

Fortunately, the RR/CC had some previous experience in this regard, having conducted a more limited post-election audit of votes cast on one (1) randomly selected Diebold TSX unit with VVPAT following the June 6, 2006 Gubernatorial Primary Election. Experience gained from that citizen-observed audit of one TEV unit formed the basis for the development of the necessary procedures for comparing the votes cast and recorded on the more expanded 5% audit of TSX memory cards with the VVPAT, including a methodology for resolving any differences between totals due to VVPAT printer problems. Following public notification, the 5% audit was performed on November 13th and 14th, 2006 in the presence of a number of citizen observers. Supervisor Yaroslavsky joined the observation process for several hours on November 13th.

The 5% TSX Random Audit Process

For the November 2006 General Election, 150 AccuVote-TSX devices with VVPAT were deployed to 17 locations, including 22 devices at RR/CC headquarters in Norwalk and 8 devices in each of the 16 remote sites. The devices in all 16 remote sites were available for voting between October 25th until November 3rd. The devices in Norwalk were available from October 11th through Election Day, November 7th.

Given the total of 150 DRE devices used during the November 2006 General Election, the 5% target equated to auditing eight (8) devices. These 8 devices were selected randomly by citizen observers from folded slips of paper in a transparent container at RR/CC Norwalk headquarters on the morning of November 13th. Each slip contained the TEV Site Name and the DRE Machine Number for that site. The list of all TEV sites and machine numbers is provided in Appendix B of this document.

The parameters of the audit entailed selecting four (4) contests listed on the ballot, in recognition of the time and costs required to carry out the manual audit while simultaneously

demonstrating the accuracy of the DRE devices. Two (2) contests were selected for audit on the first 4 of the 8 devices randomly selected. The other 2 contests were selected for audit on the remaining 4 devices. The selection of these 4 contests was partly deliberate and partly random. The RR/CC deliberately included the races for Governor and Secretary of State, as those contests garnered significant public interest.

The remaining 2 contests were selected randomly by drawing two (2) slips from a transparent container of folded paper slips representing all countywide contests and propositions, excluding judicial contests. Selecting countywide contests guaranteed that the contest would appear on every ballot regardless of the voter's residence. Judicial contests were excluded due to historically high under-voting (no selection made) in such contests. The 2 contests that were randomly selected by the citizen observers present were the contest for U.S. Senate and statewide ballot measure Proposition 86.

The complete description of the procedures used for the 5% random audit are found at Appendix A.

The results of the machine and contest selection and pairing are presented in the table below:

TEV Site	Machine No.	Contests Examined
AC Bilbrew	3	▪ Governor ▪ U.S. Senate
Calabasas	2	
Carson	4	
Pasadena	1	
AC Bilbrew	7	▪ Secretary of State ▪ Proposition 86
East L.A. Library	1	
Lakewood	6	
Pasadena	7	

Once the devices and the contests were selected, citizen observers accompanied RR/CC staff to the 3rd Floor MTS Room where the memory cards and VVPAT security canisters are securely stored. The memory cards and canisters used in each selected machine were retrieved from locked storage cabinets containing numbered and logged seals. The memory cards and canisters were then taken to the 7th Floor Conference Room, where two (2) AccuVote-TSX units were used to print election summary reports from each of the 8 units' memory cards. The selected contests for each machine were isolated and then cut out from each of the election summary reports and attached to separate manual tally sheets used for the manual count comparison. Several observers attended the manual to machine count comparison throughout the entire day on November 13th.

The manual count comparison involved reading each ballot printed on the VVPAT paper roll(s) from each selected machine, identifying the desired contest on the ballot and then tallying which candidate or yes/no (for ballot proposition) position received the vote. Once all the ballots on all the randomly selected VVPAT paper rolls were reviewed, the manual tally scores were totaled and compared to the totals from the election summary tapes. Slight variances between the manual tallies and the election summary tapes occurred due to one of two causes:

1. The VVPAT paper roll had a printer problem that caused one or more ballots on the roll to be illegible and therefore uncountable; or

2. Staff made an error in the manual tally, either by scoring the vote for the wrong candidate, inadvertently reading votes from a provisional or rejected ballot, losing track of ballots read, or some other human error.

Five (5) of the 8 selected devices showed exactly matching tallies between the manual tally and the election summary tape on the first manual tally from the VVPAT paper rolls. Two (2) of the 8 selected devices, i.e. those containing the largest number of votes, required several manual tally attempts prior to arriving at matching totals. This corresponds with past experience in manual tallies of all types of ballots (punch card and optical scan), i.e. a correlation between larger ballot counts which yields higher rates of human error in reading and manually tallying votes.

One machine had a VVPAT paper roll with two (2) partially illegible ballots and one (1) completely illegible ballot due to paper jams in the VVPAT. However, by printing out all of the ballot images from this machine and comparing those to the ballots on the VVPAT paper roll, it was possible to deduce which ballot images belonged to the illegible ballots and to arrive at an exact match tally for that machine.

The audit demonstrated that printer jams can and do occur which can cause all or part of a printed ballot to be illegible on the VVPAT paper roll. It also demonstrated that by using a printout of ballots cast generated from the TSX database it is possible to accurately deduce which ballots were undecipherable on the VVPAT paper roll due to a printer jam.

The table on the following page summarizes the data and findings of the manual count comparison for each of the 8 selected devices:

Results of the Manual Count Comparison

TEV Site	Machine No.	VVPAT Rolls	Ballots Cast	First Tally Matched	Cause of Discrepancy	Resolution
AC Bilbrew	3	1	19	Yes		
Calabasas	2	2	44	Yes		
Carson	4	1	139	Yes		
Pasadena	1	2	29	Yes		
AC Bilbrew	7	1	20	Yes		
East L.A. Library	1	1	26	No	Printer Jam /Illegible Ballots	Obtained Ballot Images For Illegible Ballots
Lakewood	6	2	181	No	Human Error	Matched After Multiple Manual Tally Attempts
Pasadena	7	3	285	No	Human Error	Matched After Multiple Manual Tally Attempts

Data on the number of votes cast for each candidate in the selected contests by machine is detailed in Appendix C of this document.

Conclusion

The manual count audit of the 8 randomly selected TSX devices used in the November 2006 General Election confirmed the accuracy of the computerized vote totals compiled by the Diebold's AccuVote-TSX machines in use in Los Angeles County. However, given the susceptibility of all printer technologies to occasional paper jams, the audit raised serious concerns about the wisdom of the designation of the VVPAT as the *official* record of votes cast (which is now State law in the event of a recount of a closely contested race). Relying on the VVPAT for official tallies during recounts poses the considerable risk of resulting in the unintended consequence of disenfranchising some voters whose VVPAT jammed especially when those voters' ballots can clearly be confirmed by accessing the electronic images. Additionally, the experience with this audit confirms the experience of many election administrators that, as the volume of ballots increases, manual counting of votes by humans becomes increasingly less reliable due to the tendency for human error in performing simple, repetitive tasks on a large scale.

Appendix A

Procedures for 5% Random Audit of AccuVote TSX Devices Used in the November 7, 2006 Gubernatorial General Election

November 13, 2006

1. Welcome and Introduction
2. Brief description of the random audit process.
    a. Observers will randomly select eight TSX devices by drawing paper slips from a group of slips representing devices used in Touchscreen Early Voting for the general election. Eight devices represent over 5% of devices deployed for the election.
    b. Audited contests will include the contests for Governor and Secretary of State, as well as two other countywide contests randomly selected by drawing paper slips prepared for all other non-judicial countywide contests.
    c. Two contests will be audited on four of the TSX devices, while the other two contests will be audited on the remaining four devices.
3. Audit Coordinator will retrieve the memory cards and Voter Verified Paper Audit Trail (VVPAT) security canister(s) for each selected device from secure storage in the Micro-Tally Systems (MTS) room.
4. For each memory card, staff will insert cards into one of eight AccuVote-TSX devices located in the audit area and power up each of the devices.
5. Staff will perform the following steps operating the AccuVote-TSX post-election interface on each device:
    a. Press "Print Election Results" button. Press "OK".
    b. "Print Summary Totals Only" button. Press "Yes".
    c. "Print write-in candidates" button. Press "Yes"
    d. "Print Long Report" button. Press "No"
    e. "Another copy?" button. Press "No"
6. When the Election Results Summary Report completes printing, staff will scroll through the report and identify the selected contests to be audited for that device.
7. For each contest, results from the report will be cut out and stapled to a pre-printed manual tally sheet.
8. For each selected contest, audit team members will be instructed to take the following actions:
    a. One clerk will scroll through the VVPAT (from the end of the roll to the beginning) looking for votes on each ballot cast for the contest in question. If a ballot is marked as rejected, the clerk will skip over the ballot.
    b. Each identified vote will be called out and a second clerk will record the vote on the manual tally sheet for that contest. If the ballot is provisional, the second clerk will mark the vote in a separate total and will not include the provisional vote in the regular vote tally.

c. After all ballots on the VVPAT have been reviewed and all votes have been called out and recorded, the manually tallied votes will be compared to the vote total from the Election Results Summary Report.

d. The clerks will roll up the VVPAT for use on other selected contests.

9. If the VVPAT paper roll for a particular device has any paper jams or other print errors that result in the ballot printout being illegible, the following steps will be employed:

   a. From the TSX central tabulation system, the audit coordinator will print all stored ballot images for that device.

   b. Each ballot image printed will be matched to a ballot on the VVPAT roll.

Through a process of review and deduction, staff will identify which ballots printed represent the ballots that did not print correctly on the VVPAT roll.

Appendix B

List of All Devices at Touchscreen Early Voting Sites

TEV Site	Machine No.
Central	*1*
Central	*2*
Central	*3*
Central	*4*
Central	*5*
Central	*6*
Central	*7*
Central	*8*
Calabasas	*1*
Calabasas	*2*
Calabasas	*3*
Calabasas	*4*
Calabasas	*5*
Calabasas	*6*
Calabasas	*7*
Calabasas	*8*
Lakewood	*1*
Lakewood	*2*
Lakewood	*3*
Lakewood	*4*
Lakewood	*5*
Lakewood	*6*
Lakewood	*7*
Lakewood	*8*
Pasadena	*1*
Pasadena	*2*
Pasadena	*3*
Pasadena	*4*
Pasadena	*5*
Pasadena	*6*
Pasadena	*7*
Pasadena	*8*
West Covina	*1*
West Covina	*2*
West Covina	*3*
West Covina	*4*
West Covina	*5*
West Covina	*6*
West Covina	*7*

TEV Site	Machine No.
West Covina	8
AC Bilbrew	1
AC Bilbrew	2
AC Bilbrew	3
AC Bilbrew	4
AC Bilbrew	5
AC Bilbrew	6
AC Bilbrew	7
AC Bilbrew	8
Beverly Hills	1
Beverly Hills	2
Beverly Hills	3
Beverly Hills	4
Beverly Hills	5
Beverly Hills	6
Beverly Hills	7
Beverly Hills	8
Braille	1
Braille	2
Braille	3
Braille	4
Braille	5
Braille	6
Braille	7
Braille	8
ELA Library	1
ELA Library	2
ELA Library	3
ELA Library	4
ELA Library	5
ELA Library	6
ELA Library	7
ELA Library	8
Carson	1
Carson	2
Carson	3
Carson	4
Carson	5
Carson	6
Carson	7
Carson	8
Monterey	1

TEV Site	Machine No.
Park	
Monterey Park	2
Monterey Park	3
Monterey Park	4
Monterey Park	5
Monterey Park	6
Monterey Park	7
Monterey Park	8
Redondo Beach	1
Redondo Beach	2
Redondo Beach	3
Redondo Beach	4
Redondo Beach	5
Redondo Beach	6
Redondo Beach	7
Redondo Beach	8
Norwalk	1
Norwalk	2
Norwalk	3
Norwalk	4
Norwalk	5
Norwalk	6
Norwalk	7
Norwalk	8
Norwalk	9
Norwalk	10
Norwalk	11
Norwalk	12
Norwalk	13
Norwalk	14
Norwalk	15
Norwalk	16
Norwalk	17

TEV Site	Machine No.
Norwalk	*18*
Norwalk	*19*
Norwalk	*20*
Norwalk	*21*
Norwalk	*22*
Culver City	*1*
Culver City	*2*
Culver City	*3*
Culver City	*4*
Culver City	*5*
Culver City	*6*
Culver City	*7*
Culver City	*8*
Lancaster	*1*
Lancaster	*2*
Lancaster	*3*
Lancaster	*4*
Lancaster	*5*
Lancaster	*6*
Lancaster	*7*
Lancaster	*8*
Valencia	*1*
Valencia	*2*
Valencia	*3*
Valencia	*4*
Valencia	*5*
Valencia	*6*
Valencia	*7*
Valencia	*8*
North Hills	*1*
North Hills	*2*
North Hills	*3*
North Hills	*4*
North Hills	*5*
North Hills	*6*
North Hills	*7*
North Hills	*8*

Appendix C

Votes Cast By Contest, Candidate for Selected Devices in the 5% TSX Manual Count Comparison

(Note: under votes, votes on provisional ballots, and write-in votes were not scored in the audit, so in some cases the total votes cast are lower than the total ballots cast.)

Contest	AC Bilbrew 3	Calabasas 2	Carson 4	Pasadena 1
Governor				
Olivier	0	2	0	0
Jordan	0	0	0	0
Camejo	0	1	1	1
Noonan	0	0	0	2
Angelides	14	20	73	8
Schwarzenegger	5	21	60	15
Total Votes Cast	**19**	**44**	**134**	**26**
U. S. Senator				
Grundmann	0	0	1	1
Mountjoy	1	7	39	8
Metti	0	1	1	1
Chretien	0	1	2	0
Feinland	0	0	3	1
Feinstein	18	35	89	17
Total Votes Cast	**19**	**44**	**139**	**28**

Contest	AC Bilbrew 7	East L.A. Library 1	Lakewood 6	Pasadena 7
Secretary of State				
Hill	0	0	4	6
Bowen	14	20	87	165
McMillon	0	0	1	1
McPherson	3	5	76	95
Lightfoot	3	0	4	4
Akin	0	0	2	3
Total Votes Cast	**20**	**25**	**174**	**274**
Proposition 86				
Yes	13	14	80	157
No	7	9	98	119
Total Votes Cast	**20**	**23**	**178**	**276**

Attachment 1

VOTING SYSTEM INTEGRITY ACTIVITIES IN L.A. COUNTY

November 7, 2006 GENERAL ELECTION

The California Elections Code requires each local election official to conduct a manual count of ballots cast in a randomly selected 1% of the voting precincts in order to verify the accuracy of the machine count. This manual tally occurs during the vote canvass period prior to official certification of election results. This 1% manual count augments pre-election testing activities in demonstrating the integrity of the tabulation system. In addition to this legal requirement – and in the interest of enhancing public confidence in our voting systems – the Los Angeles County Board of Supervisors together with the Registrar-Recorder/County Clerk have established three additional activities to demonstrate the integrity and transparency of Los Angeles County's voting systems.

The activities listed below will be conducted prior to certification of the November 7, 2006 General Election results.

All proceedings are open for public observation.

PRECINCT BALLOTS

Manual Count of BALLOTS FROM 1% OF Precincts

(all contests; polling place ballots)

Random selection of precincts will take place on Wednesday, November 8, 2006 at 3:00 p.m. in the Registrar's Executive Conference Room, 7th floor, Norwalk headquarters.

Dates: Begins Saturday, November 11, 2006 and continues daily until completed. **Time:** 8:30 a.m. – 4:00 p.m. on Saturdays and Sundays; 8:30 a.m. – 6:30 p.m. weekdays **Location:** Registrar-Recorder/County Clerk headquarters, 12400 Imperial Highway, Norwalk; 7th Floor Executive Conference Room **Coordinator(s):** Alex Olvera & Cynthia Taylor	**Authority:** California Elections Code (E.C.) Section 15360 **Description:** E.C. 15360 states: "During the official canvass of every election in which a voting system is used, the official conducting the election shall conduct a public manual tally of the ballots tabulated by those devices cast in 1% of the precincts chosen at random by the elections official. In addition to the 1% count, the elections official shall, for each race not included in the initial group of precincts, count one additional precinct. The manual tally shall apply only to the race not previously counted. Additional precincts for the manual tally may be selected at the discretion of the elections official."

TOUCH SCREEN EARLY VOTING
MANUAL COUNT COMPARISION OF RANDOMLY SELECTED 5% OF VOTING UNITS
(randomly selected contests)

Random selection of voting units will take place on Monday, November 13, 2006 at 11:00 a.m. in the Registrar's Conference Room, 7th floor, Norwalk headquarters.

Date: Begins on Monday, November 13, 2006 **Time:** 11:00 a.m. to 5:00 p.m. Continuing Tuesday, November 14, 2006 at 9:00 a.m. until completed. **Location:** Registrar-Recorder/County Clerk headquarters, 12400 Imperial Highway, Norwalk; 7th Floor, Registrar's Conference Room **Coordinator:** Kenneth Bennett	**Authority:** By motion of the Los Angeles County Board of Supervisors adopted October 24, 2006 **Description:** The Registrar-Recorder/County Clerk conducts an audit of votes cast on no fewer than 5% of the Direct Recording Electronic (DRE or "Touchscreen") machines used for early voting. The DRE units and contests to be audited are randomly selected. A comparison is made of the votes recorded on the Voter-Verifiable Paper Audit Trail (VVPAT) with the centralized vote tally system count. In the event of a VVPAT paper jam, ballot images will be printed from the equipment for use in the vote comparison.

SNAP TALLY
Manual count Comparison of randomly selected 5% of "Snap Tally" Precincts (snap tally contests selected by media)

Random selection of precincts will take place on Monday, November 13, 2006 at 9:00 a.m. in the Registrar's Conference Room, 7th floor, Norwalk headquarters.

Date: Tuesday, November 14, 2006 **Time:** 1:00 p.m. to 5 p.m. (or until completed) **Location:** Registrar-Recorder/County Clerk, 12400 Imperial Highway, Norwalk; 7th Floor, Registrar's Conference Room **Coordinator:** Deborah Wright	**Authority:** By motion of the Los Angeles County Board of Supervisors adopted October 24, 2006; California Elections Code Sections 14440, 14443 describe "snap tallies" **Description:** The Registrar-Recorder/County Clerk randomly selects no fewer than 5% of the designated snap tally precincts to be manually counted and compared to the snap tally results produced on election night and the centralized vote tally system count for these precincts.

ABSENTEE BALLOTS

MANUAL COUNT COMPARISON OF BALLOTS FROM 1% OF ABSENTEE BALLOTS TABULATED ON ELECTION DAY
(randomly selected contests)

Random selection of ballot groups and contests will take place on Monday, November 13, 2006 at 9:00 a.m. in the Registrar's Conference Room, 7th floor, Norwalk headquarters.

Date: Begins on Monday, November 20, 2006 **Time:** 9:00 a.m. – 4:00 p.m. Continues daily until completed. **Location:** Registrar-Recorder/County Clerk, 12400 Imperial Highway – Norwalk – 3rd Floor MTS Room & 7th Floor Registrar's Conference Room **Coordinator:** Kenneth Bennett	**Authority:** Registrar-Recorder/County Clerk Policy adopted October 30, 2006 **Description:** The Registrar-Recorder/County Clerk conducts a random audit of votes cast by absentee/mail ballots. The random audit will include no fewer than 1% of the absentee ballots cast and tabulated on Election Day in a sampling of electoral contests. Manual count will be compared to the totals produced for the same contests on the county's centralized vote tally system.

Facts about

InkaVote Plus Voting System

- Tested and approved by Federal Election Authorities (March 2006)
- Tested and certified by California Secretary of State (April 2006)
- Used successfully for all Los Angeles County elections since November 2006

InkaVote Plus Voter Advantages:

✓ Prevents voters from casting blank ballots

✓ Prevents overvotes (more selections than a contest allows).

✓ Provides an audio option for:
- Voters with visual impairments
- Voters who prefer translation assistance

California's Secretary of State is currently re-examining voting systems. The InkaVote Plus system is involved in the review which should be completed shortly. The InkaVote Plus system is not used for counting votes in Los Angeles County (all votes are counted at the Registrar's headquarters on a central tally system).

REGISTRAR-RECORDER/COUNTY CLERK
COUNTY OF LOS ANGELES · CALIFORNIA

ATTACHMENT 7