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STATE BOARD OF ELECTIONS
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February 28, 2006

The Honorable Robert L. Ehrlich, Jr.
Governor
State of Maryland
State House
Annapolis, Maryland 21401-1925

Dear Governor Ehrlich:

The Maryland State Board of Elections (SBE) is pleased to respond to your questions and comments in your February 15, 2006 letter. This response has received unanimous approval of the Board membership.

The SBE has closely followed the debate of the reliability and security of electronic voting systems. We have been on the front line of this topic since 2001 when we were directed by law to implement a uniform voting system and voting process regulations throughout the State. Contrary to many press reports, Maryland's touchscreen system enjoys acceptance by an overwhelming majority of Maryland's citizens. Nevertheless, as you state there have been widely reported issues of potential security concerns since we deployed our systems. Accordingly, Maryland's touchscreen system has been the most studied and analyzed voting system in the nation. We have learned from almost all of these studies and have incorporated resulting improvements. We believe Maryland has put in place the most carefully considered security procedures of any Direct Recording Electronic (DRE) jurisdiction in the country.

The SBE has had great interest in the outcome of the Independent Testing Authority (ITA) activity since California requested Diebold to submit the AccuBasic source code on the memory cards and the AccuBasic interpreter last December. As of writing this letter, the ITA hasn't released its findings yet, but we note that on February 17, 2006, the California Secretary of State issued a press release conditionally certifying the Diebold system based on the review and findings of a state advisory board prior to the conclusion of the anticipated ITA results. For background, it is helpful to understand the ITA process. The National Association of State Election Directors (NASED) approves ITAs that test voting systems against federal performance and test standards. Upon completion of testing, the ITA provides NASED a written test report. After a successful review, NASED assigns a qualification number which serves as proof to local or state election jurisdictions that the system they are considering to implement has met federal standards. While we share your frustration with the pace of the ITA testing of the California Diebold systems, due to the independent nature of system testing, the SBE believes it should not

interfere with the ITA other than making known our stake holding interest in the results. Doing so would compromise the testing process.

SBE has been very closely following the activities of this testing period and is poised for a quick response analysis on potential implications to our system. We have been studying California's recent conditional certification for impact to Maryland's system and believe that most if not all the procedural conditions are already met in Maryland's process protocol. I would like to emphasize that Maryland does not have authority to control the testing and certification process of California's system.

In late 2005, SBE commissioned a voter verification study. The University of Maryland Baltimore County and University of Maryland College Park studied the technical and usability aspects of independent voter verification systems. Their progress was hampered by difficulties in negotiating non-disclosure agreements, non-compete agreements, and study system delivery dates with vendors who were asked to participate. This difficulty not only impacted the schedule, but also impacted the scope of the study. The researchers had intended to study six systems, but had to settle for four. The study was just recently released on February 24, 2006 and all findings and conclusions are available on the SBE website.

The SBE shares your concern about expanding costs to conduct and administer elections. It is a matter of fiscal responsibility to monitor these costs. Maryland Election Law directs the SBE to maximize the use of technology in election administration, including the development of a plan for a comprehensive computerized elections management system. Annotated Code of Maryland, *Election Law Article,* §2-102(7), *Annotated Code of Maryland.* Based on this mandate and other factors including the reduction of errors of voter intent much publicized after the 2000 Presidential election, Maryland implemented a uniform, fully automated system to replace the wide-variety of equipment previously used in the discretion of the local boards throughout the State. Maryland now has the lowest voter error rate in the country according to a 2005 report from the CalTech/MIT Voting Technology Project.[1] This represents a significant 40% reduction in voter error when compared to the 2000 election. Voters should, therefore, have a high degree of confidence in the virtual elimination of voter intent error. Costs have increased in large part due to a series of security changes made in the system since our original procurement. The $9.5M figure attributed to this year's maintenance costs includes non-recurring services for introducing the voting system in our last jurisdiction, Baltimore City. Once all twenty-four jurisdictions are in the maintenance phase of the project, these costs are estimated to be reduced to approximately $1M a year.

In February 2005, SBE provided the Maryland Department of Legislative Services (DLS) its fiscal note input to the SB478 Early Voting. That estimate included the cost and justification for electronic poll books at $2000 to $2500 each. DLS opted not to include the SBE-provided cost estimate for electronic poll books in the final fiscal note. The Board, Administrator, and staff have consistently represented that electronic poll books would be necessary to implement early voting to address administrative concerns and election fraud concerns. The Board is not aware of any administrative reason as to why our estimate was not included in the bill last year.

[1] Stewart, Charles III, "Residual Vote in the 2004 Election," CalTech/MIT Voting Technology Project, February 2005.

The SBE believes it has been responsible with our fiscal advice and estimates. Since 2000, cost estimates have been based on research and good faith logic. Much of the increased costs have been due to unforeseen information security fixes related to studies and implementation activities. Sources of suggested improvements include the 2002 Rubin study, the 2003 SAIC, Inc. study, and the 2004 RABA Technologies, LLC study.

To the Board's dismay, the debate about early voting has become partisan. An independent-minded review of the Board's testimony to the Beall Commission would conclude that the comments focus on the adverse administrative impact of implementation; but unfortunately many have grossly misinterpreted the Board's comments as partisan. HB 1580 and companion SB 942 have been introduced to defer early voting to 2008. The Board believes its comments on early voting are well-documented and any additional comments on the initiative would be interpreted as partisan and thus be inappropriate. Suffice it to say at this point Early Voting is now Maryland law, and without additional legislative action we are responsible to carry out this change in the Election Law.

The following are specific answers to the questions you raised regarding Diebold Voting Systems.

1. What specific electronic components are being tested by the ITA and how does it relate to the Diebold voting systems used in Maryland?

The California Secretary of State submitted the AccuBasic source code residing on the memory card in the Diebold optical scan and touchscreen voting systems to the ITA and also to an independent state advisory board of qualified security experts. The AccuBasic source code is used to create reports generated by the voting unit (such as the election night totals report). This code and the touchscreen and optical scan memory cards on which it resides are the same as those used in Maryland's current Diebold systems. Although California issued this request to the ITA two months ago, at this time, the ITA has not yet issued a report. While awaiting the ITA report, SBE is reviewing the conditions issued by the California Secretary of State. Accordingly, the SBE is determining whether any additional security measures need to be implemented.

2. Have other jurisdictions decertified or failed to certify any version of the Diebold Optical Scan or Touch Screen (DRE) systems used in Maryland?

Maryland's current configuration is the AccuVote-TS voting unit with ballot station firmware version 4.6.4 for polling place voting, the central tabulator software (referred to as GEMS) version 1.18.24, Voter Card Encoder firmware version 1.3.2, and Key Card tool software version 4.6.1. For absentee voting, Maryland's absentee configuration is the AccuVote-OS voting unit with precinct count firmware version 1.96.6 or version 1.97, which is currently being tested by an ITA. Except for the precinct count firmware version 1.97, these components have been tested by an ITA against the 2002 federal Voting System Standards, issued a NASED qualification number, certified for use in the State, and successfully completed acceptance testing. With the exception of California, no jurisdiction has decertified the voting system hardware, firmware or software used in

Maryland. Despite the fact that that ITA has not issued a report, the California Secretary of State issued a press release on February 17, 2006 granting certification with conditions of the various Diebold software and firmware. This decision was based on the review and finings of its advisory board. In April 2004, the previous California Secretary of State did decertify all Direct Recording Electronic (DRE) voting systems, including the AccuVote-TS voting system used in Maryland. In August 2004, however, he re-certified the AccuVote-TS with ballot station firmware and GEMS software versions used in Maryland for the 2004 elections.

3. What does the Maryland Election Law statute provide regarding the certification of election systems? Under what circumstances does it require the State to decertify an elections system?

Maryland's election law requires that the State's voting system must be: (1) examined by an NASED approved ITA; and (2) shown by the ITA to meet the performance and test standards for electronic voting systems established by the Federal Election Commission. *Election Law Article*, § 9-102(c)(2), *Annotated Code of Maryland.*[2] Section 9-101(a) requires that the State Board of Elections certify a voting system for polling place voting and a voting system for absentee voting. Subsections 9-102(c) and (d) identify the requirements and considerations for a voting system to be certified for use in Maryland. Title 33, Subtitle 9 of the Code of Maryland Regulations provides detailed information on the certification process in Maryland. This detailed and thorough certification process has been in place since 2000 and is generally considered to be one of the most rigorous in the nation. The State Board of Elections has carefully followed the statutory and regulatory requirements in certifying the voting system now in place.

Section 9-103 specifies when the State Board must decertify a voting system. The State Board is required to decertify a voting system if the voting system no longer meets one or more of the following requirements: (1) protect the secrecy of the ballot; (2) protect the security of the voting process; and (3) count and record all votes accurately.

4. What is the State Board of Elections' contingency plan if the current voting system is decertified, or otherwise found to be incapable of administering a 2006 election free of any charges of compromise?

This question would only arise if Maryland's voting systems lost NASED qualification, which would in turn cause Maryland to decertify the system. While it may be possible that a voting system could lose NASED qualification due to an unexpected issue, it seems very unlikely that the issue would be so widespread and catastrophic that a timely fix could not be made to enable the system to meet qualification standards. This is a reasonable assumption given the fact that the voting system has gone through a detailed examination prior to receiving NASED qualification and has undergone numerous other reviews, studies, and security assessments. Accordingly, the contingency plan for loss of

[2] This provision will need to be amended once the U.S. Election Assistance Commission (EAC) (created by the Help America Vote Act of 2002 as the federal agency to certify independent testing laboratories and establish voting system standards) has assumed responsibility for approving independent testing laboratories.

NASED qualification would be to have the vendor correct any issue necessary to re-establish NASED qualification.

5. Can new machines be successfully procured for use in the 2006 elections?

Although the state procurement process can be cumbersome, it may, in fact, be theoretically possible to purchase a precinct count optical scan system in time for the 2006 election. This requires that the vendor has sufficient equipment and other resources necessary to fill a statewide order of Maryland's magnitude. It also assumes that there would be a timely appropriation of significant funds for such procurement. Currently, there are no funds in the fiscal year 2007 budget request or any prior budget request for such a procurement.

The legislation pending in the House and Senate (by its definition of a paper trail) requires an optical scan voting system and at least one voting unit per precinct for voters with disabilities that will also produce an independent document ballot. Only one company, Election Systems and Software (ES&S), currently provides the type of voting unit contemplated for voters with disabilities – a product called "AutoMARK." At this point, there is conflicting information as to whether ES&S can fill a statewide order and can support a statewide implementation. Although it has been reported in *The Baltimore Sun* that a company salesman has indicated that such an order can be filled in time for the 2006 election,[3] the SBE has not been formally contacted by ES&S. Nevertheless, it is not clear whether this indication includes the AutoMARK units needed for voters with disabilities, and whether the company can provide the necessary support. Indications from other sources in the company as well as election officials in other states suggest that ES&S does not have the resources to meet its current customer demands, especially for the AutoMARK units.

As with any new system rollout or major new initiative, the major impact to election administrators is careful and successful implementation. Changing voting systems means creating new procedures and regulations, drafting new training materials for poll workers, training poll workers, conducting security reviews, integrating the voting system with the State's existing election management system, and creating and implementing a statewide voter outreach program. Voter outreach is required under the federal Help America Vote Act and State regulations and would be especially important in the State's largest jurisdictions that have never used precinct count optical scan system – Baltimore City, Prince George's County, and Montgomery County.

6. What are the likely mitigation steps necessary to ensure public confidence in our elections system?

Professor Donald F. Norris, Director of the Maryland Institute for Policy Analysis and Research at the University of Maryland, Baltimore County (UMBC), recently conducted a public opinion survey of 800 Maryland registered voters who voted in the last election.[4]

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[3] "Voting Machine Maker Says New Voting System Doable for Fall," *The Baltimore Sun*, February 18, 2006.

[4] The survey has a 95% confidence level and a 3.5% margin of error.

The survey found that 92% of Maryland voters reported a positive experience voting in 2004. In addition, 99% felt that the system was easy to use, 88% felt comfortable using the system, and 83% felt that their vote was recorded and counted accurately.[5]

According to the UMBC survey, there is no "crisis of confidence" with the voting system. In fact, despite a well-orchestrated and well-financed negative campaign by paper trail advocates, it is noteworthy that Maryland voters are confident in the voting system and have an overall positive opinion of it. Nonetheless, the SBE is exploring ways to better educate the public about the voting system, the security measures that are in place, the improved accuracy of the system as compared to systems previously used in Maryland, and the benefits the system provides for voting integrity.

The following are specific answers to the questions you raised regarding Voter Verification Systems.

1. When will the Voter Verification Study conducted by UMBC be available for review?

The report of the technical and usability studies conducted by the University of Maryland, Baltimore County and the University of Maryland, College Park, was issued on February 24, 2006 and all findings and conclusions are available on the SBE website.

2. What is the State Board of Elections' plan if the General Assembly requires the Board to purchase a voter verified paper audit trail or optical scan machines to replace the current system in time for the 2006 elections?

There currently is no voter verified paper audit trail that can be added to Maryland's current voting systems. While Diebold has a prototype for an add-on printer for the AccuVote-TS voting system, it is just that – a prototype. There is not enough time between now and the upcoming elections for Diebold to finalize development, manufacture, submit to an ITA for qualification, and install a voter verified audit trail on Maryland's 20,000 voting units.

Since there is no voter verified paper audit trail solution available for Maryland's current voting system, the passage of a voter verified paper audit trail would mean the implementation of a new voting system. Depending on how voter verified paper audit trail is defined in legislation, the State would be required to procure and implement either Diebold's AccuVote-TSx with the AccuView Printer Module or an optical scan voting system.

In anticipation of this legislation passing the Maryland General Assembly, SBE's Voting System Division has been preparing a schedule for implementation of a new voting

[5] The findings of this public opinion survey are consistent with a report published February 4, 2006, by InfoSENTRY, a nationally known independent information technology services firm. This report clearly indicated that, in a national opinion survey, "Americans have higher trust in the confidentiality and accuracy of computerized voting systems . . . than in other voting technologies."

system. Certainly, less than five months to implement a new voting system is not ideal; implementation of a new voting system normally requires at least an 18 to 24 month lead-time. Assuming there are no procurement issues, adequate funding is forthcoming, and the winning vendor can provide the required number of voting units and support services, as the elections community has previously stated a compressed implementation significantly increases the likelihood of administrative issues and voter confusion and decreases the ability to implement effective security measures.

3. What voter verification system technologies are compatible with our current voting system?

There is a difference between a voter verification system being compatible with the current voting system, and a voter verification system being integrated with the current voting system. All of the voter verification systems reviewed in the University of Maryland study are, in theory, compatible with Maryland's current voting system. The systems included in the study were: (1) Diebold's paper trail prototype for the AccuVote-TS voting unit; (2) Sentinel by VoteHere; (3) Phyx by Scytl; and (4) an audio verification system designed by Dr. Ted Selker of MIT's Media Lab. In addition, there are two additional products that may be compatible with our current voting system – Democracy Solutions' VoteGuard and Avante's paper trail solution. The former company belatedly agreed to participate in the study, and the latter company does not appear to be marketing its paper trail solution as an add-on feature to other vendors' voting systems.

According to testimony by Professor Paul S. Herrnson, Director of the Center for American Politics and Citizenship at the University of Maryland, College Park, integration of the voter verification systems into a mock Diebold voting system posed significant challenges. All of the voter verification systems would require some integration and software modification, the extent of which is largely unknown. In addition, the verification system and the software modifications would have to receive NASED qualification which as we have indicated is a lengthy process.

4. Could we acquire and implement a statewide voter verification system for the 2006 elections?

According to both Dr. Norris and Dr. Herrnson, it is not possible to acquire and implement a statewide voter verification system for the 2006 elections. Dr. Norris recently testified that none of the systems in the study were fully developed and recommended against buying any of them this year. Based on the results of this study, it would not be in the State's interest to acquire and implement a voter verification system to integrate with our current system for the 2006 elections.

5. What is the estimated cost to the State to acquire a voter verification system for the 2006 elections?

In addition to the acquisition costs, there are additional costs associated with State certification, integration with the State's existing election management system, security review, revised election documentation (including election judges' manual), training, maintenance, and extensive voter education that must be included. A voter verified paper audit trail for a DRE voting system would mean procuring and implementing the Diebold AccuVote-TSx with AccuView Printer Module. The SBE estimate to acquire the hardware, firmware, and software and to implement the new voting system is about $88.5 million. Since there has not been much legislative or executive interest in voter verification systems other than the paper trail solution, we have not generated cost estimates for the other verification systems.

6. How do the costs of a statewide voter verification system compare to the costs of implementing a statewide optical scan system?

The estimated cost to implement a statewide optical scan voting system is approximately $68 million. This estimate includes two accessible voting units per precinct[6] and ballot printing costs for one election. There are also on-going ballot printing costs. In addition to the direct costs associated with implementing an optical scan voting system, there are other significant indirect costs to consider. Returning to this voting system means reintroducing issues of voter intent, overvotes, unintentional undervotes, an increase in the number of uncounted votes, inability to read the ballots because of printing errors, and multiple page ballots, all of which have been eliminated with the current voting system. Also, returning to paper ballots also means the return of the inherent risks associated with management of paper ballots. Nineteen of our twenty-four jurisdictions were using the optical scan voting system, but the remaining five jurisdictions, Allegany, Baltimore City, Dorchester, Montgomery and Prince George's Counties make up 44% of Maryland's registered voters and have never used an optical scan voting system for polling place voting.

The following are specific answers to the questions you raised regarding Early Voting.

1. What is the State Board of Elections' plan for implementing Early Voting for the 2006 elections?

The plan for technical implementation of the early voting plan is still in progress. SBE staff is collecting procedures and lessons learned from other jurisdictions around the country that have already implemented early voting. The plan is for staff to work with the local election officials in crafting guidelines and regulations for approval by the State Board. Identified issues include standards for early voting locations, establishing minimum requirements for equipment, supplies and election judges at the early voting locations, and standards for ensuring the security of the voting units throughout the entire

[6] Since optical scan voting units are not accessible to voters with disabilities, the State must also purchase an accessible voting system to be in compliance with the Help America Vote Act. As previously noted, the only accessible device for an optical scan voting system is AutoMARK. The estimate includes two AutoMARK devices for each precinct to ensure that there is sufficient quantity to accommodate the polling place needs and that there is always one working device in each precinct

five-day period. Once this is complete, the local election officials will have the significant task of implementing the guidelines and procedures. Their biggest challenges will be choosing acceptable location(s) for voting and recruiting a sufficient number of election judges.

2. What is the position of the county and local boards of election on the implementation of early voting for the 2006 election?

During the consideration of Senate Bill 478 at the 2005 legislative session, many of the local election boards and the Maryland Association of Election Officials advocated against the implementation of early voting. They felt that implementation at this time was too much of an administrative burden, especially given all of the other projects and issues facing the local boards such as the implementation of the new statewide voter registration system. Nonetheless, now that it has become the law, both the local boards and the State Board will diligently endeavor to administer the law in the most professional and secure manner possible.

3. What is the State Board of Elections' plan for administering early voting in a secure manner if the State is unable to purchase electronic pollbooks for the 2006 elections?

There are two issues of potential election fraud raised by early voting. First, in a county that has more than one early polling location, election officials will not be able to prevent a voter from voting at more than one of the locations. Second, since early voting does not end until the Saturday before the election, there is not sufficient time to update the precinct register[7] and Voter Authority Cards (VACs)[8] that will be deployed to the polling places on Election Day. In each of these cases, there is a very high certainty that the individual committing this fraud will be caught during the post-election audits. The problem is that, in many instances, election officials will not be able to discover the fraud until after the election is certified.

The plan for administering early voting without electronic poll books will be to use paper precinct registers and voter authority cards. As noted, they may not be updated during the early voting period or prior to Election Day to mark voters as already having voted. There are a number of significant administrative concerns with this method as the State Administrator outlined in her supplemental budget request to the Secretary of Budget and Management. The Board fully supports the supplemental budget request and rationale for electronic poll books.

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[7] The precinct register is a list of registered voters who are assigned to that precinct. When the voter comes to vote, the election judge looks the voter's name up in the precinct register to confirm that the voter is eligible to vote a regular ballot in that precinct. The precinct register also serves the intended purpose of ensuring that a voter does not vote more than one time.

[8] Voter Authority Cards are cards that contain the voter's registration information. The voter is given the card to sign and then hands it to the voting unit Election Judge before the voter is allowed to vote on the voting unit. It is this document that ties the voter to the voting unit on which the voter uses.

We concur with your assessment that the SBE is intended to be an independent, non-partisan agency and should not take positions on partisan election law issues. The five members unanimously agree to keep a close and critical eye toward maintaining the independence and fairness of ourselves as members, the SBE Administrator, her staff, and serve as an example for the extended Maryland elections community. We have witnessed many occasions that demonstrate the Maryland elections community is the most dedicated, conscientious, responsible and professional group of personnel in State and Local government.

The entire Board membership is pleased to provide you this information. We are diligently working together to ensure Maryland citizens can count on our ability to deliver a free and fair election administration.

Sincerely yours,

Gilles W. Burger
Chairman

Thomas Fleckenstein
Vice Chairman

Joan Beck
Bobbie S. Mack
A. Susan Widerman

cc: The Honorable William Donald Schaefer, Comptroller
The Honorable Nancy K. Kopp, State Treasurer
The Honorable Thomas V. Mike Miller, Jr., President of the Senate
The Honorable Michael E. Busch, Speaker of the House
Members, Governor's Commission on the Administration of Elections
Cecilia Januszkiewicz, Secretary of Budget and Management
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