



Voting System Memory Card Issues

Memory card security is an important issue that requires some additional attention. They are used in many voting systems, both optical scan and direct recording electronic. Among the systems using memory cards is the Diebold AccuVote optical scan system. On December 23, 2005, the Chairperson of the NASED Voting Systems Standards Board contacted representatives of CIBER, Inc.; Wyle Laboratories and Diebold Election Systems, Inc. with a request for additional information regarding the qualification testing of the Diebold voting equipment and the memory cards associated with those systems. The letter read, in part:

It is clear the memory card and ABasic component of the Diebold voting system should have been tested, but were not. From Ciber and Wyle labs, NASED independent test authorities, I request a full, written explanation of how this happened and why. Please respond by January 3, 2006. I expect to make this report public and anticipate Diebold's cooperation.

In the intervening weeks NASED has received general responses from Wyle and CIBER, as well as detailed reports of security analysis of the Diebold memory card's ABasic Code by CIBER and one issued by the California Secretary of State in conjunction with its certification documentation. Both of these studies were performed in response to requests from the State of California to Diebold Election Systems.

Both the California and CIBER reports arrive at the same core conclusion: Diebold voting systems which include the ABasic code on the memory card can be safely used in elections. Physical security measures should be used to mitigate risks to the system; but these security measures are practical procedures already in place in many election jurisdictions. Even without the additional explicit security measures, corruption of the election results in an official election would require the active participation of the election officials and a person with a detailed working knowledge of the voting system programs.

Memory cards are used in many NASED-qualified voting systems. The memory card function is to store and transfer ballot images or tabulation data. It is sealed inside the voting device and its presence is necessary for the operation of the equipment. Corruption of the memory card with the intent to change vote totals can only occur after the device has been set for election and before the first vote is cast.

Every memory card requires at least the same level of protection as the ballot boxes and ballots used in the election. **To prevent corruption of memory cards NASED hereby adopts an official addendum to the qualification of all voting systems that include a memory card that functions to store and transfer ballot images or tabulation data:**

1. Throughout the life of the voting system, the election official shall maintain control of all memory cards and keep a perpetual chain of custody record for all of the memory cards used with the system. Programmed memory cards shall be stored securely at all times with logged accesses and transfers.
2. Immediately after the memory card is installed in the voting station, the card shall be sealed against unauthorized access. The voting station shall not be set into election mode until after the memory card is sealed inside.
3. Use controlled serialized seals that are tamper resistant and resistant to inadvertent breakage along with verifiable seal logs.
4. In post-election mode, print the results report prior to removing the memory card from the optical scanner. If additional reports other than the results report are available, print these as well.

Failure to comply with this addendum negates the voting system's status as a NASED-qualified voting system.



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