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CERTIFICATION OF A BALLOT MARKING SYSTEM

In March of 2005 Election Systems & Software, Inc. (ES&S) of Omaha, Nebraska requested the review and examination of a ballot marking device. Ballots marked by the device may be tabulated on ES&S' Model 650 and Model 100.

Upon examination of the system, the Secretary of State finds the AutoMARK system satisfies the requirements of Washington State law. This version of the system, NASED N-2-14-22-12-001 (1990), consists of:

- **Hardware**, comprised of
 - AutoMARK Voter Assistance Terminal (VAT), v1.0
 - ES&S Model 650, Central Scanner, v. 2.0.1.0
 - ES&S Model 100, Precinct Tabulator, v. 5.1.0.0

- **Software**, comprised of
 - AutoMARK Information Management System ("AIMS"), v1.0 (note: certified to create the AutoMARK ballot layout only. May not be used to tabulate any ballots.)
 - ES&S Unity System 2.5, (note: certified to tabulate ballots from the Model 650 and Model 100 only. May not be used under this certification to lay out the AutoMARK ballots.)

Under the provisions of RCW 29A.12.020 and 29A.12.030, the Secretary of State hereby approves the ES&S AutoMARK system for use in Washington State, as a ballot marking device, when used in compliance with the procedures contained in this certification, the accompanying Report and Findings, and Washington State law.



Certified on this June 28, 2005



SAM REED
Secretary of State

FINAL REPORT OF THE SECRETARY OF STATE
ON THE EXAMINATION AND EVALUATION OF A
BALLOT MARKING DEVICE

In March of 2005 Election Systems & Software, Inc. (ES&S) of Omaha, Nebraska requested the review and examination of a ballot marking device under RCW 29A.12.020 and 29A.12.030. The hardware and software for this system is marketed under the name ES&S AutoMARK Voter Assistance Terminal (VAT), v1.0. The software system that allows a jurisdiction to create the election-specific programming of the device is known as ES&S AutoMARK Information Management System ("AIMS"), v1.0.

The AutoMARK is a fifty pound poll-site based, hand fed, ballot marking device. The device integrates an optical scanner, ink-jet printer, touch-screen ATM-style monitor, and a navigational keypad. The device is also equipped with a jack for headphones, and a port to connect to DCA devices such as a touchpad tactile device, or a Sip-Puff device. (Note: staff did not test the device using a Sip-Puff device). The election-specific programming is stored on a flash memory card that is secured in the device behind a keyed panel.

An un-voted optical scan ballot is fed into the device by the voter. The voter determines whether the ballot will be presented to him/her through the touch-screen monitor or the audio headphones. The voter also chooses the means of interacting and navigating through the ballot - touch-screen; and/or the keypad, and/or one of the DCA devices. (Note: the keypad does not work if a DCA device is being used) After the voter makes his/her selections, the device prints ovals on the inserted ballot at positions corresponding to the voter's choices and ejects the ballot. The voter may re-insert the ballot and have the selections as scanned by the device displayed and/or read back to him/her.

The AIMS software is menu driven and allows the user to describe all aspects of an election. In preparation for ballot counting, the user enters office descriptions, positions, precinct combinations, and ballot types. The AIMS software is used to produce and download the election specific programming onto the flash memory card.

As currently configured, the election specific programming can not be imported from the system that lays out the optical scan ballot. This means that a jurisdiction using the AutoMark must layout their optical scan ballots and layout their AutoMark ballots separately. The ES&S representatives have indicated that the vendor will be certifying an upgraded AIMS system to import files directly from the Unity 2.5 optical scan ballot layout.

An electronic vote device must meet the following requirements (as set forth in WAC 434-335-040) in order to be approved for use in Washington State:

1. Secures to the voter secrecy in the act of voting;
2. Permits the voter to vote for any person for any office and upon any measure that he or she has the right to vote for;

3. Permits the voter to vote for all the candidates of one party or in part for the candidates of one or more other parties;
4. Except for functions or capabilities unique to this state, has been tested and approved by the appropriate independent testing authority approved by the United States election assistance commission.
5. Be capable of being secured with lock and seal when not in use;
6. Be secured physically and electronically against unauthorized access;
7. Not be connected to, or operated on, any electronic network including, but not limited to, internal office networks, the internet, or the world wide web. A network may be used as an internal, integral part of the vote tabulating system but that network must not be connected to any other network, the internet, or the world wide web; and
8. Not use wireless communications in any way.

Testing and evaluation of Election Systems & Software's AIMS Election System with the AutoMARK was conducted by Secretary of State staff, June 7th, 2005 in the Secretary of State's office at 520 Union in Olympia, WA. Examining the system for the Office of the Secretary of State were Paul Miller, Elections Information Manager and Lori Guerrero, HAVA Coordinator. Also participating in the examination were members of the Thurston County Elections staff, and representatives from ES&S. The vendor made a presentation of the AIMS Election system and test elections were conducted using groups of test decks prepared at the direction of the Office of the Secretary of State and other ballots prepared by the examiners.

FINDINGS OF THE SECRETARY OF STATE

The AIMS software system, and the AutoMARK represent a brand new technology in the state of Washington. It is a hybrid technology that provides several tools to assist voters with disabilities to vote independently and privately. In this regard, it is similar to the direct recording electronic (DRE) devices that are currently certified and in use in this state. However, unlike the DRE devices, votes are not stored or tabulated on the device. The AutoMARK produces a voted ballot that is counted the same way all other ballots, including absentee ballots, are counted.

Due to the fact that it is a new technology, the AutoMARK does not have an extensive track record to establish its reliability. In the documentation submitted to the EAC, the vendor states the system "is designed to withstand normal use without deterioration and without excessive maintenance cost for a period of ten years". The system successfully completed the harsh environmental tests subjected by SysTest, one of the federally approved independent testing authorities. It was used successfully in a small binding election in Phoenix, AZ through the November 2004 election. During the testing conducted by staff, it consistently printed ovals precisely corresponding to the location required by the ballot.

In the view of staff, and our understanding is that ES&S agrees, the design of this system requires the primary users of this system be voters who would otherwise be unable to vote a paper ballot without assistance from another person. Most voters in jurisdictions using this equipment will continue to vote their own paper ballot without the assistance of this device.

Observations during the testing of the system requiring follow up at the public hearing:

- The AutoMARK uses a synthesized voice. A few words were mispronounced – ex.; "Nadine", and "No." (abbr. of number) pronounced as "No" (opposite of "yes")
- A ballot for the general was fed into the device programmed for the primary. The AutoMARK presented the primary ballot and marked the ballot for the primary.

After an evaluation of the system and a review of the accompanying documentation, staff believes the system and its components meet current Washington State requirements as outlined in WAC 434-335-040. The documentation accompanying the application for certification shows the system with upgrades was fully reviewed by federally approved independent testing authorities but has not yet received NASED certification.

STAFF RECOMMENDATION

Staff recommends the ES&S AIMS v1.0 System, and the AutoMARK (firmware version 1.0) ballot marking device be certified for use in Washington state after it receives NASED certification, provided that the following procedures are used in conjunction with the system:

The county must purchase enough units to have back-up units available at all elections.

The county follows the recommendation of the vendor to replace the ink-jet cartridge frequently. At a minimum, once before the fall elections and once before the spring elections.

ES&S will either provide training to the county on maintenance of the device including the procedures for adjusting the printing parameters. As an acceptable alternative, ES&S may provide a maintenance services to tune the devices to all specifications once a year prior to the primary.

A minimum of one ballot from every ballot style will be voted and tested on the AutoMARK as part of the Logic and Accuracy test prior to every election. Prior to the Logic and Accuracy test, the county should test every precinct on the AutoMARK to ascertain that the device was programmed correctly.

Counties provide training to their poll workers or logistical support to ensure the following:

- The device is setup so the privacy of the voter is protected. The vendor is developing a booth/screen that can be used in conjunction with the device.
- Poll workers are able to assist the voter having difficulty with the device without compromising their right to vote privately and independently. Secrecy sleeves (or a ballot without the contest information printed on it) may be used to protect the secrecy for a voter who requires assistance to remove a voted ballot and insert it into the ballot box.
- Paper jams cleared quickly. Most ballots did not jam in our tests – even ballots folded the way absentee ballots would be – but crumpled and unusually folded ballots will disable the device.

The ballots produced by the AutoMARK must be hand counted or tabulated on ES&S' M100 precinct counter or ES&S' M650 central tabulator. The AutoMARK is being developed to tabulate ballot formats compatible with other vendors but those features have not been tested as part of the national or state certifications.

It is recommended that the canvassing board of any county using this system adopt written procedures governing these processes. This equipment should be used with a device or devices capable of suppressing current surges, voltage fluctuations, and any other line disturbances.

VOTING SYSTEMS REVIEW PANEL RECOMMENDATION

By consensus, the Voting Systems Review Panel adopts the staff recommendation of Secretary of State staff that the ES&S AIMS v1.0 System, and the AutoMARK (firmware version 1.0) ballot marking device be certified for use in Washington state after it receives NASED certification, along with the staff recommended procedures.

In addition, the Voting Systems Review Panel adds the following procedures and restrictions to the use of this system:

Prior to every election the user county will test the touch screen device and the printer of the AutoMARK for calibration. The county will recalibrate the devices as necessary to ensure that the ovals are printed in correct response positions and the touch screen responds correctly to the user's touch.

Prior to every election the user county must listen to the entire ballot generated by the voice synthesizer and substitute a phonetic spelling for each word that the synthesizer mispronounces.

The user county should follow the manufacturer's recommendations for the maintenance and replacement of the battery backup for the AutoMARK.

If a county intends to allow the voter to use a ballot that was mailed to them with the AutoMARK device, they should develop procedures to deal with voters who bring in a ballot for the wrong election. The Panel recommends the county have a supply of ballots on-hand to distribute to the voters.