

# Wake County (Raleigh), North Carolina. November 2002

## Undisputed Evidence of Software Losing Ballots on Touch Screen Voting Machines

### Overview

Electronic voting machines failed to count 436 ballots cast at two Wake County early voting locations. As soon as it was discovered that the machines were not registering votes cast, the Director of Elections returned to using the optical scan ballots.

VerifiedVoting.org called Cherie Poucher, the Wake County Director of Elections, to find out the type of machine used and to ask the cause of the problem. Ms. Poucher explained that she was informed by ES&S that the firmware in the machines was the problem, causing some votes not to be recorded. Ms. Poucher decided not to pursue using the iVotronic and will continue to use the optical scanner precinct count tabulators used in Wake County since 1992. A summary of the conversations and supporting documentation follow the article.

#### **Machine:**

ES&S iVotronic

### News Article

<http://www.wral.com/news/1753809/detail.html>

#### **Electronic Ballots Fail To Win Over Wake Voters, Election Officials Machines Provide Improper Vote Count At Two Locations**

POSTED: 8:22 a.m. EST November 1, 2002

UPDATED: 11:49 p.m. EST November 2, 2002

**RALEIGH, N.C.** -- Electronic voting machines that were supposed to solve Florida's election problems have created problems at two Wake County voting sites. Election officials said it appears some of the high-tech machines cannot count.

Wake County prides itself on using paper ballots that are easy to read and machines that count them accurately. Voters simply use a marker to connect two lines next to a candidate's name.

This year, during early voting, the county is testing touch-screen machines -- including the same kind of machines that threw Florida's primary into a tailspin.

"It's ridiculous. They wouldn't have had all the trouble they did in Florida if they had the ballot we've got now," said a Raleigh voter of the traditional ballots.

The electronic machines failed to count 294 ballots cast last week at a Cary senior citizens center and a Raleigh police substation.

One of the safeguards Wake County put in place helped election officials sort out the problem. During early voting, every ballot -- whether cast on paper or electronically -- is numbered at the top. Election officials are cross-referencing the numbers to find out which ballots were counted and which ones were not.

Officials noticed the problem Sunday night when the number of ballots cast did not match the number of ballots counted.

State election director Cherie Poucher spent all day on the phone reassuring residents. "They may go vote again at One-Stop voting locations, they can vote on Election Day. If they're out of town, we'll Fedex them a ballot," Poucher said.

The problem machines were removed, and voters at the two sites are casting ballots the old-fashioned way. Election officials said this may convince them to stick with what they know works.

Electronic machines that are being tested at other early voting sites in Wake County have not had any problems. None of those machines will be used on Election Day.

## VerifiedVoting.org's report on conversations with Cherie Poucher

Wake County was testing the iVotronic during the early voting process in two precincts. Each absentee ballot application contained a sequence number, which was entered by hand into the machine immediately before the voter voted. After each day's voting, poll workers compared the counters on the machines with the number of absentee ballot applications completed that day. When they discovered that the counters on six of the machines didn't match the number of applications, they realized the machines had failed to record some of the votes. Ms. Poucher took all the iVotronic machines out of service and used the county's optical scan ballots for the remainder of the election. The iVotronic machines were secured in the Wake County Board of Elections' office.

She contacted ES&S, who requested that the Wake County technician check the version number of the firmware in the iVotronic machines. She was later informed that Jackson County, North Carolina, had encountered the same error two days before the problem arose in Wake County. ES&S had replaced the firmware in Jackson County to correct the problem. ES&S said Wake County's malfunctioning test machines were using the same flawed firmware version and agreed to go to her sites and replace the firmware. Ms. Poucher had already decided to use the optical scan ballots for the remainder of the one-stop voting and did not further test the iVotronic machines.

The technicians were unable to extract the audit data at the Wake County Board of Elections' office; therefore the database had to be copied to removable media and returned to the ES&S offices where they were able to extract the audit data two days later. They emailed the data to Ms. Poucher. The data contained the sequence numbers of the recorded votes.

Ms. Poucher and her staff compared the sequence numbers in the audit data to the sequence numbers on the ballot applications and were able to determine the names of the people whose votes had not been recorded. They also noted that some of the sequence numbers had been either entered inaccurately or recorded inaccurately so that there were some duplicate sequence numbers in the audit data. They determined the names of the people whose votes had not been recorded. They contacted all of 436 voters by first-class mail. Staff also began making telephone calls to the affected voters to personally inform them of the situation and to explain the voter's options. The options included voting again at a one-stop site, voting on Election Day, and if necessary a ballot would be hand delivered to the voter's home or e-mailed, faxed or Fed Ex'd to the voter.

Ms. Poucher and her staff checked the final tallies and determined that the machines' failure to record the votes cast by the 78 voters who did not vote again did not affect the outcomes of any races.

HAVA will require that every precinct in the country must use at least one system equipped for individuals with disabilities. Ms. Poucher is now waiting for the report by the Election

Assistance Commission's Standards Committee that will state the specifications for the required equipment. But she plans to continue using the optical scan voting equipment in all precincts.

Attached are two letters. The first was sent to Gary O. Bartlett, Executive Director of the State Board of Elections informing him of the problems and explaining the reasons why she was sending a bill to ES&S for the cost associated with contacting the affected voters and providing them an opportunity to recast their votes. She wrote, "Had ES&S been aware of the firmware in use in the test they were conducting in Wake County and acted immediately when they realized the problem in Jackson County, we would not have experienced the problem of votes not being recorded."

The second letter is a copy of the bill sent to Lezlee Emerson, Vice President of Customer Support for Election Systems and Software. Ms. Poucher said that the bill was paid.

## Ms. Poucher's letter to the State Board of Elections

### MEMORANDUM:

To: Gary O. Bartlett, Executive Director  
From: Cherie Poucher, Director  
Date: January 28, 2003  
Re: I-Votronic Equipment Failure

Attached you will find a letter to Lezlee Emerson, Vice President of Customer Support for Election Systems and Software. Due to the problems encountered during the testing of the direct record equipment, Wake County is requesting reimbursement from ES&S for expenses incurred by the Board of Elections as a result of the malfunction of the i-Votronic voting equipment.

Below is a synopsis of what transpired with the testing of the I-Votronic equipment and the discovery of a problem with the firmware.

The Wake County Board of Elections tested the i-Votronic direct record equipment at two additional one-stop voting sites for the November 5, 2002 General Election. One of the sites was in Cary and the other at the Northwest Raleigh Police Substation. At that time, we pulled the equipment from the sites since there appeared to be a problem with the vote totals.

On Monday, October 21, 2002, the one-stop supervisor in the Cary site advised me that the total votes cast on the six units did not add up to the total number of one-stop voters. We learned that the situation was the same at the Northwest Raleigh one-stop site. At that time, we immediately pulled the equipment from the sites since there appeared to be a problem with the vote totals and/or the votes being recorded.

We immediately called ES&S, who then notified Jim Johnson, the technician. Mr. Johnson called our office and requested that Wake County's technician, Sherwood Brantley, verify the firmware version that was installed in the units. It was agreed that ES&S would retrieve the audit data, to allow us to identify which voters' votes were not recorded. This step was crucial and needed to be done immediately to maintain the integrity of the election process. Unfortunately, there were many problems from that point on and data could not be retrieved until October 24.

ES&S agreed to immediately retrieve the audit data and Mr. Johnson reported to our office on October 22. We knew that this step was necessary to identify the voters whose votes were not recorded. In order to maintain the integrity of the election process, it was imperative that we notify the voters and that we offer them the opportunity to vote again. Unfortunately, ES&S was not able to immediately obtain the data. In fact, it was not until Thursday, October 24 when the audit data was finally retrieved.

From the data e-mailed to us, our office was able to determine which absentee one-stop voters' votes had not been recorded or could not be determined. The total number of unrecorded or undetermined votes for both sites was 436: 285 at Cary and 151 at Northwest. We mailed letters to all 436 affected voters informing them that their votes had not been recorded and that they should return to a one-stop site and vote or that they could vote on Election Day, November 5.

The priority of staff became contacting as many of the voters as possible by telephone. As you would expect, there were many voters who had voted and then left on vacations, business trips, etc. Also, there were voters who were physically not able to return to a voting place. Ultimately, the Wake County Board of Elections staff hand delivered ballots, Fed-X ed ballots, and faxed ballots to voters. All of this was done to maintain the integrity of the elections in Wake County.

I am proud to inform you that all but 78 voters recast their votes. But this could not have happened if we had not worked day and night calling and arranging for voters to recast their ballots.

On Thursday, October 24, Al Marcheski had informed me that ES&S knew there was a problem with the firmware we were using. I later learned that Jackson County, North Carolina had the same problem with their equipment several days prior to our problem being discovered. The firmware in their equipment was changed and their problems resolved.

Had ES&S been aware of the firmware in use in the test they were conducting in Wake County and acted immediately when they realized the problem in Jackson County, we would not have experienced the problem of votes not being recorded.

I have submitted a bill to ES&S for the cost to Wake County and am enclosing a copy of the bill at this time.

## **Ms. Poucher's reimbursement bill sent to ES&S**

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January 28, 2003

Ms. Lezlee Emerson  
Vice President, Customer Support  
Election Systems and Software  
11208 John Galt Blvd.  
Omaha, NE 68137

Re: Test of i-Votronic

Dear Ms. Emerson:

The Wake County Board of Elections tested the i-Votronic direct record equipment at two additional one-stop voting sites for the November 5, 2002 General Election.

On October 21, 2002, the one-stop supervisor in the Cary site advised me that the total votes cast on the six units did not add up to the total number of one-stop voters. We learned that the situation was the same at the Northwest Raleigh one-stop site. At that time, we pulled the equipment from the sites since there appeared to be a problem with the vote totals.

We immediately called ES&S, who then notified Jim Johnson the technician. Mr. Johnson called our office and requested that Wake County's technician, Sherwood Brantley, verify the firmware version that was installed in the units. It was agreed that ES&S would retrieve the audit data, to allow us to identify which voters' votes were not recorded. This step was crucial and needed to be done immediately to maintain the integrity of the election process. Unfortunately, there were many problems from that point on and data could not be retrieved until October 24.

On Thursday, October 24, Al Marcheski had informed me that ES&S knew there was a problem with the firmware. I later learned that Jackson County, North Carolina had the same problem with their equipment several days prior to our problem being discovered. The firmware in their equipment was changed and their problems resolved. Had

ES&S been aware of the firmware in use in Wake County and acted immediately when the problem in Jackson County was corrected, Wake County would not have experienced the problem of votes not being recorded.

It was imperative that the Wake County Board of Elections immediately notify the voters affected by the votes not being recorded and offering them the opportunity to vote again. The priority of staff at that time was to contact by phone as many of the voters as possible. Also, a letter was mailed to all affected voters listing his/her options.

The Wake County Board of Elections staff hand delivered ballots, Federal Expressed ballots, and faxed ballots to voters to maintain the integrity of the elections in Wake County.

Listed below is the cost to the Wake County Board of Elections to rectify the situation created by the failure of the firmware to record all the votes:

Staff time to determine list of voters affected; to obtain telephone numbers; to make calls to the affected voters; to process letters, faxes, etc. to the affected voters	\$5,590
Letterhead, envelopes, postage, Fed-X charges, mileage for ballots hand delivered	\$ 408
TOTAL	\$5,998

We respectfully request reimbursement for these expenses. The check should be made payable to the Wake County Board of Elections and mailed to our office at PO Box 695, Raleigh, NC 27602. We expect payment within the next 30 days.

Thank you.

Cherie R. Poucher, Director  
Wake County Board of Elections

Cc: State Board of Elections