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# WATAUGA COUNTY BOARD OF ELECTIONS

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County Courthouse ♦ 842 West King Street Boone, North Carolina 28607

## County Board of Elections

The Watauga County Board of Elections will meet Tuesday, April 8, 2025 at 5:00p.m. in the County Administration Building located at 814 West King Street, Boone, NC 28607. This meeting is open to the public.

Join Zoom Meeting

<https://us02web.zoom.us/j/82486101478?pwd=aiG4c507SePFAshVG2aaN0dNRyux6m.1>

Meeting ID: 824 8610 1478

Passcode: 856239

OR

Dial by your location

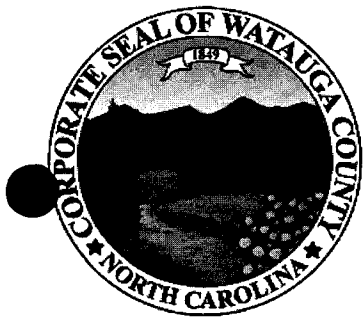
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• +1 312 626 6799 US (Chicago)

**April 8, 2025**

## AGENDA

1. CALL TO ORDER
2. PLEDGE
3. APPROVAL OF MINUTES FROM MARCH 11, 2025
4. NEW REGISTRATIONS AND STATISTICS
5. DIRECTOR'S UPDATE
6. NEW VOTING EQUIPMENT
7. PUBLIC COMMENT
8. ADJOURNMENT



# WATAUGA COUNTY BOARD OF ELECTIONS

County Courthouse ♦ 842 West King Street Boone, North Carolina 28607

## County Board of Elections

April 8, 2025

### MINUTES

The Watauga County Board of Elections met Tuesday, April 8, 2025, at 5:00 p.m. in the County Administration Building located at 814 West King Street, Boone NC. Board members in attendance: Chairperson Michael Behrent, Members Leta Councill and Elaine Rothenberg, and Secretary Matthew Walpole. Also attending: Director Matthew Snyder and Deputy Director Donna Houck. A representative of the ES&S/Printelect company, Ms. Michelle Mrozkowski, also attended.

1. CALL TO ORDER

Chairperson Behrent called the meeting to order.

2. PLEDGE

All pledged allegiance to the flag of the United States.

3. APPROVAL OF MINUTES FROM MARCH 11, 2025

Member Councill moved to approve the Minutes of March 11, 2025, seconded by Member Rothenberg. Approved by 4-0 vote.

4. NEW REGISTRATIONS AND STATISTICS

Director Snyder reported 110 new registrations, bringing totals to 43,324 active and inactive, and 37,093 active registered voters. Member Councill moved acceptance of the report pending review, seconded by Member Rothenberg. Approved by 4-0 vote.

5. DIRECTOR'S UPDATE

The NCADE Conference was recently held in Durham, Statewide, there are now 40 new county directors, with a digital divide noted between the larger and smaller counties due to differing resources. Long-time County poll workers Tom Rokoske and Fred Badders have recently passed away. Turnover in staffs of nearby counties include the retirement of directors in Wilkes and McDowell Counties, and deaths in Ashe, Yadkin and Caldwell Counties.

The State BOE is moving ahead under the assumption of pending implementation of SB 382, which will include among its provisions the restructuring of County Election Boards.

As per State requirements, shredding of unvoted ballots from elections of 2022, 2023 and 2024 took place on April 1<sup>st</sup>.

We are still waiting on storage facility updates.

A preliminary budget meeting has been held with the County Commissioners.

We have been contacted by a Duke University research group which is examining provisional ballot procedures in North Carolina. They have requested the opportunity to interview staff and Board members.

6. NEW VOTING EQUIPMENT

New federal Executive Orders relating to elections, and pending legal challenges to those orders, have caused hesitancy about taking final action in purchasing new voting equipment. Given this uncertainty, and the fact that a senior Board member had to miss this meeting, it was decided to postpone action on purchasing equipment. Equipment options were discussed. The State BOE has refused permission to use a hybrid Printelect system using the DS 300 with the old Automark, as this configuration has never been approved as a system. Current options include choosing Hart as a supplier, choosing Printelect with a combination of the DS 200 with the older Automarks and then upgrading to the DS 300 with Expressvote (replacing the Automark) when the new model Expressvote is introduced, choosing the DS 300 with the current Expressvote now and upgrading to the new model Expressvote when it is introduced, or choosing to use the M100 with Automark for one more election cycle (for which Printelect would again provide technical support), should the state so allow. Choosing a Printelect option which does not use their current Expressvote technology would be in response to our Precinct Judges not liking the different-sized ballot which it produces. It is noted that, county-wide, this is a technology which is quite infrequently used.


7. PUBLIC COMMENT

Michelle Mrozkowski, representing Printelect, offered the only public comment. She noted that Board discussion as it related to new federal Executive Orders showed concern about the use of bar codes on ballots to convey administrative information. She pointed out that the Executive Order specifically exempted systems used by voters with disabilities, and thus bar code use should not be considered as an issue by Board members in evaluating the equipment proposals. She stated that should the Board put off a new equipment purchase and use the M100 technology for another election cycle, Printelect would continue to provide maintenance. She finished by stating that should the Board decide on an option using the Printelect DS 200 technology with Automark now, with upgrading to DS 300 technology with the new version of Expressvote when it became available, the interface of the two systems was essentially the same, and that poll workers would not require extensive training on a new system.

8. ADJOURNMENT

Member Council moved to adjourn, seconded by Member Rothenberg. Approved by 4-0 vote.

  
Michael Behrent, Chair

  
Matthew Walpole, Secretary

  
Leta Council, Member

  
Eric Eller, Member

  
Elaine Rothenberg, Member

  
Matthew Snyder, Director

LOCAL

# Firm recommends changes for New Hanover elections board following 2024 confusion



**Daniel Sheehan**

Wilmington StarNews

Published 5:03 a.m. ET April 4, 2025

## Key Points AI-assisted summary ⓘ

A third-party review found that the New Hanover County Board of Elections knowingly set internal deadlines that conflicted with state law regarding absentee ballot counting.

Although the discrepancy did not impact the election results, it raised concerns and prompted a review of the board's practices and resource needs.

The review recommended improvements to communication, process efficiency, staff training, and election management software.

While county staff recommended increased funding for the board of elections, some commissioners questioned the need for additional resources in a non-presidential election year.

A third-party review of the New Hanover County Board of Elections' procedures during the 2024 election has been completed, finding that the board was aware that its internal deadlines conflicted with state law.

New Hanover County hired law firm Parker Poe to conduct a review following concerns that the board violated North Carolina General Statute 163-234, which states that "absentee ballots received prior to Election Day shall be counted on Election Day." The board implemented an administrative cutoff on Oct. 31, leaving 1,950 absentee ballots uncounted on election night.

The affected ballots were subsequently included in the official election results during the county canvass on Nov. 15, 2024. While the deviation from the law did not affect election outcomes, New Hanover officials sought a review to determine best practices for future elections and identify additional resources that the board may need to carry out its duties.

**Previous coverage:** As controversy swirls over uncounted ballots in New Hanover County, here's what's next

The review found that the board was aware of the statutory deadlines but implemented internal deadlines that conflicted with state law. In a letter to county commissioners, board of elections chair Derrick Miller said that requirements around every aspect of voting have become more involved and time-consuming than in prior elections.

"The complexity and difficulty of conducting elections has greatly increased due to the combination of changes in election law and

procedure, the make-up of the available workforce for elections and the growing volatile nature of elections themselves,” Miller stated in the letter.

The board of elections declined to participate in the review process, providing only a summary of their budget requests and resource needs. The review did not find anything that indicated that earlier deadlines were established due to staffing issues, but Parker Poe was unable to determine the reason for establishing the deadline without the input of the board. After supplying the firm with budget requests, the board informed Parker Poe that it was engaging with an attorney.

There will not be any legal penalties as a result of the deviation from the law unless an affected candidate challenges the process.

## **Changes recommended**

Parker Poe made several recommendations to the board of elections regarding procedures, communication and resource allocation. The firm recommended that the board establish a structured, real-time communication process between itself and county administration, as well opening direct communication between the board’s legal counsel and the county attorney.

Parker Poe recommended that the board implement process improvements to guarantee all ballots received by the state-

mandated deadline are counted on election night. The firm advised that the board complete comprehensive post-election audits and legal reviews to ensure compliance with state laws. Additional training and improved election management software were also recommended. The county allocated up to \$30,000 to complete the review.

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In a summary of the review, county manager Chris Coudriet said that providing adequate resources to the board of elections is a priority as the county establishes the 2026 budget. At a budget meeting on March 20, county staff recommended \$265,947 in enhancements be allocated to the board of elections. Staff recommended \$19,844 to election management software, \$96,103 to fill a vacant elections education and communication coordinator position and \$150,000 for additional staff. Still, county commissioners including Bill Rivenbark expressed uncertainty over the necessity of additional funding in a year without a presidential election.

“We can throw a whole bunch of money at the board of elections,” Rivenbark said. “I don’t think this next election in November is going to be anything like what we just went through.”

Commissioner Dane Scalise said that the county had not received a request for additional funding prior to the November 2024 election. Coudriet said that the county preemptively approached the board to provide resources ahead of the election.

Commissioner Stephanie Walker said it was evident from the long lines on election day that the board was understaffed.

“They clearly needed help in some way, shape or form,” Walker said. “If this is what’s needed, let’s keep the faith in our voting systems.”

*Daniel Sheehan covers New Hanover and Brunswick counties for the StarNews. Reach him at [dsheehan@gannett.com](mailto:dsheehan@gannett.com).*



**Matthew.Snyder**

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**From:** Ava Meigs <ava.meigs@duke.edu>  
**Sent:** Monday, April 7, 2025 1:01 PM  
**To:** Ava Meigs  
**Cc:** Katelyn Cai; Rhiannon Camarillo; Ishita Vaid  
**Subject:** Duke University Research Team - Invitation to Interview

Dear County Board of Elections Chair,

We are a team of nonpartisan student researchers from Duke University researching provisional ballots in North Carolina. We work in partnership with the Student Voting Rights Lab at Duke and North Carolina Central University. We are hoping to learn how to improve the efficiency and consistency of provisional balloting administration across the state's one hundred counties.

To this end, we are inviting County Board of Elections Chairs and staff to interview with a member of our team about their experiences with provisional ballots. We would like to hear from as many County Board of Elections employees as possible, and would greatly appreciate it if you could alert your staff as to this opportunity.

All interviews will be treated with strict confidentiality, and we will remove all identifying information regarding the county and the employee interviewed. These interviews will not be used to investigate individual Board of Elections employees. Responses will be used for research purposes only. Additionally, we will not record any portion of the interview without full permission and consent from the interviewee. The information you provide will help us to better understand the challenges and opportunities for improvement in the provisional ballot process.

We are prepared to offer interviewees financial compensation for their time and effort.

Please let us know if you or any of your staff members would be interested in this opportunity via the survey linked below. If you have any questions, feel free to reach out to us at [ava.meigs@duke.edu](mailto:ava.meigs@duke.edu). Thank you for your time and for the crucial work you do in supporting elections.

Link to survey: [https://duke.qualtrics.com/jfe/form/SV\\_6kRRlavlHY9T5ye](https://duke.qualtrics.com/jfe/form/SV_6kRRlavlHY9T5ye)

Kind Regards,  
Duke University Provisional Ballot Research Team

## Matthew.Snyder

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**From:** Cox, Paul <paul.cox@ncsbe.gov>  
**Sent:** Tuesday, April 8, 2025 11:51 AM  
**To:** SBOE\_Grp - Legal  
**Cc:** Bell, Karen B; Gannon, Patrick  
**Subject:** FAQs on the Court of Appeals Decision in the Griffin Protest

Directors (via BCC):

Last Friday, the North Carolina Court of Appeals issued a decision in the election protest brought by state supreme court candidate Jefferson Griffin. The court's decision, which has been appealed, may require the county boards of elections to contact voters whose voter registration forms did not include a driver's license number or last four digits of a Social Security number (and didn't check the box indicating they lacked these numbers), and to allow those voters to provide that information to their county board of elections, to ensure their votes for the supreme court contest count in the 2024 general election. The court's decision may also require the county boards of elections to contact military and overseas-citizen voters who voted absentee to provide a copy of their photo identification, to ensure their votes for the supreme court contest count in the 2024 general election.

### **The court's decision is not yet in effect and is currently being appealed.**

On April 7, 2025, the state Supreme Court entered a temporary stay of the Court of Appeals decision while it considers whether to accept the appeal. If the court's decision does go into effect, the State Board of Elections will provide detailed instructions to the counties and affected voters on how to comply with the court's decision.

In the meantime, below are responses to questions we've received or anticipated.

#### **1. What if a voter who is challenged as having an "incomplete" registration contacts the board asking how they can address the issue?**

First, explain that the decision is not yet in effect. If it goes into effect, the county board would notify them on how to proceed. The decision is being appealed.

Basically, the court concluded that voters have to provide either their driver's license or the last four digits of their social security number to ensure their registration is "complete," unless the voter indicated they lacked these numbers. If the voter is listed as an "incomplete" voter, the candidate protesting the election has alleged that the voter didn't provide this information when they registered.

While we wait to see if this decision will go into effect, the voter is welcome to submit an updated voter registration form to ensure all their information is complete and current. The easiest way is to use the DMV's online registration system, if they have an NC driver's license. Go to [payments.ncdot.gov](https://payments.ncdot.gov) to fill out a voter registration application. You don't need to create a special account with the DMV. You can select "Continue as Guest" on the DMV's website and proceed directly to submitting your voter registration. If you're already registered, submitting this information will merely update your existing voter registration. If you don't have a license from the DMV, you can download a voter registration form at [ncsbe.gov/register-mail](https://ncsbe.gov/register-mail), and then print,

sign, and submit that paper form to the county board of elections., If the voter wants to use this option, they should mail or deliver the form to the county board of elections after completing the form. Contact and address information for the 100 county boards of elections is available here: [vt.ncsbe.gov/boeinfo](http://vt.ncsbe.gov/boeinfo).

**2. What if a military or overseas-citizen voter who is challenged as not having provided photo ID contacts the board asking how they can address the issue?**

First, explain that the decision is not yet in effect. If it goes into effect, the county board would notify them on how to proceed. The decision is being appealed.

Basically, the court concluded that military and overseas-citizen absentee voters should have been asked to provide a photocopy of acceptable photo ID or an ID Exception Form when they submitted their absentee ballot, despite a rule exempting such voters from this requirement.

While we wait to see if this decision will go into effect, the voter is welcome to submit a photocopy of their photo identification or an absentee photo ID exception form out of an abundance of caution. As you know, photo ID cures may be submitted by email, by mail or commercial carrier, in person at the county board office, or by fax. The county board should retain any photo ID documents it receives securely and separately, in case the court decision goes into effect.

**3. What if an overseas-citizen voter, who has been challenged because they never lived in the U.S. but were allowed to vote due to their parents' North Carolina residency, contacts the board asking how they can address the issue?**

First, explain that the decision is not yet in effect. The decision is being appealed.

Basically, despite a state law that allows such voters to vote, the court concluded the state constitution does not allow this. If the court's decision goes into effect, it would require their ballot to be removed from the count.

**4. Can we go ahead and contact any of the impacted voters in our county?**

To avoid any confusion because this case is still being appealed, please do not contact voters to tell them they need to do anything to cure their ballots. It is possible that this decision will get reversed. As noted above, if voters contact your office with concerns about their registration or their photo ID documentation, invite them to submit an updated voter registration form or photo ID documentation, as explained above.

**5. Can we go ahead and review the names of challenged voters from our county to see if these voters provided either their driver's license or the last four digits of their Social Security number or otherwise would be in compliance with the court decision?**

Yes. Some counties have already started analyzing their records to determine the status of challenged voters—for example, which challenged voters did provide the requested information but it needs to be entered into the system, which voters selected the checkbox that they lack these numbers, which voters provided the information but it did not validate and they provided HAVA ID, which voters actually registered before this requirement took effect in 2004, etc. If the Court of Appeals decision goes into effect, the State Board will provide detailed instructions for all county boards to carefully review their records to determine which voters would need to cure any registration issue under the court's decision and which voters would not

need to do so. You and your staff can start analyzing your records now in case this goes into effect, if you have the ability to do so.

**6. If we notice a voter provided DL/SSN and it was not entered into SEIMS, or if a number was entered incorrectly, can we update that registration now?**

Yes, the county board should always correct a registration record when it notices that there is an error on the record—that includes entering data into SEIMS that should have been entered to allow for validation or correcting data entry errors. Similarly, any registration updates you receive for any challenged voter now should be promptly processed in their record, just as you would do for any voter.

**7. What should we do if a voter challenged because their record lacked a DL/SSN updates their records with one of these numbers and it doesn't validate?**

This is a question that we'll address if the court's decision goes into effect and we need to remedy any purported registration issues.

**8. If the decision goes into effect, what would the timeline be for the process?**

If the decision went into effect, a few things have to occur before any action is taken by county boards to notify voters. First, the case would be returned to superior court. Then, the superior court would need to order the case returned back to the State Board with instructions to carry out the cure process. The State Board would then need to direct the county boards on how to implement the order. Next, the county boards would need to identify voters who would need to be contacted. This would have to be a careful process to exclude any voters who provided the information the court's order says is required, or who are not subject to the requirement (e.g., registered before 2004). After that period of identifying the voters who need to be notified, then the State Board would direct the county boards to start the notification and cure period for any affected voters, so that the period is the same across the state.

**9. A note about the ability to remove DL or SSN that comes in for a registration application.**

We are aware that SEIMS does not prevent a user from removing a DL or SSN from a registration application or application update when processing the form. Not that any county may be doing this now, but to be clear, do not remove a DL or SSN number from those fields when it is provided on a registration application, either as a new application or an update. This is especially important now because many voters may be using the DMV online registration portal to update their registration as a result of the news of the Court of Appeals decision, and registration through the DMV should populate the voter's DL into their record.

**Paul Cox**

General Counsel

NORTH CAROLINA STATE BOARD OF ELECTIONS

RALEIGH, NC 27611

919.814.0700

[www.ncsbe.gov](http://www.ncsbe.gov)

**From:** Wakely, Lindsey <Lindsey.Wakely@ncsbe.gov>

**Sent:** Friday, April 4, 2025 4:56 PM

**To:** SBOE\_Grp - Directors.BOE <Directors.boe@ncsbe.gov>

**Cc:** SBOE\_Grp - Legal <Legal@ncsbe.gov>; Bell, Karen B <Karen.Bell@ncsbe.gov>; Gannon, Patrick <Patrick.Gannon@ncsbe.gov>

**Subject:** Update on NC Court of Appeals

Good afternoon Directors,

Today the North Carolina Court of Appeals issued a decision in the election protest brought by state supreme court candidate Jefferson Griffin. The court's decision may require the county boards of elections to contact voters whose voter registration forms did not include a driver's license number or last four digits of a social security number, and to allow those voters to provide that information to their county board of elections, to ensure their votes for the supreme court contest count in the 2024 general election. The court's decision may also require the county boards of elections to contact military and overseas-citizen voters who used absentee ballots to provide a copy of their photo identification, to ensure their votes for the supreme court contest count in the 2024 general election. This protest does not affect these voters' selections in any other contest on the ballot.

**The court's decision is not yet in effect and is likely to be appealed.** If the court's decision does go into effect, the State Board of Elections will provide instructions to affected voters on how to comply with the court's decision.

The State Board has issued a press release that echoes this message as well. For voters who are concerned that their registration information is incomplete, we are providing the following:

Regardless of the ultimate outcome of this ongoing legal dispute, any voter who is concerned that their voter registration information is incomplete or is not up to date should submit an updated voter registration form. Submitting an updated voter registration form is easy. Any voter who has a license from the DMV can go to [payments.ncdot.gov](https://payments.ncdot.gov) to fill out a voter registration application. If you're already registered, submitting this information will merely update your existing voter registration. You don't need to create a special account with the DMV. You can select "Continue as Guest" on the DMV's website and proceed directly to submitting your voter registration. If you don't have a license from the DMV, you can download a voter registration form at [ncsbe.gov/registering](https://ncsbe.gov/registering), and then print, sign, and submit that paper form to your county board of elections. Contact and address information for the 100 county boards of elections is available here: <https://vt.ncsbe.gov/BOEInfo/>.

The State Board will provide updated information as this legal dispute develops.

If you have any questions, please let us know.

Sincerely,

**Lindsey Wakely**

*Deputy General Counsel*

O: (919) 814-0729



**Matthew.Snyder**

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**From:** NC State Board of Elections <ncsbe.comms@ncsbe.gov>  
**Sent:** Friday, April 4, 2025 4:51 PM  
**To:** Matthew.Snyder  
**Subject:** [State Board of Elections] Statement on Today's NC Court of Appeals Decision



FOR IMMEDIATE RELEASE

Friday, April 4, 2025

Patrick Gannon, Public Information  
Director

[Email](#)

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## **Statement on Today's NC Court of Appeals Decision**

**Raleigh, N.C.** — Today, the North Carolina Court of Appeals issued a decision in the election protest brought by state supreme court candidate Jefferson Griffin. The court's decision may require the county boards of elections to contact voters whose voter registration forms did not include a driver's license number or last four digits of a social security number, and to allow those voters to provide that information to their county board of elections, to ensure their votes for the supreme court contest count in the 2024 general election.

The court's decision may also require the county boards of elections to contact military and overseas-citizen voters who used absentee ballots to provide a copy of their photo identification, to ensure their votes for the supreme court contest count in the 2024 general election. This protest does not affect these voters' selections in any other contest on the ballot.

The court's decision is not yet in effect and is likely to be appealed. If the court's decision does go into effect, the State Board of Elections will provide instructions to affected voters on how to comply with the court's decision.

Regardless of the ultimate outcome of this ongoing legal dispute, any voter who is concerned that their voter registration information is incomplete or is not up to date should submit an updated voter registration form. Submitting an updated voter registration form is easy. Any voter who has a license from the DMV can go to [payments.ncdot.gov](https://payments.ncdot.gov) to fill out a voter registration application. If you're already registered, submitting this information will merely update your existing voter registration. You don't need to create a special account with the DMV. You can select "Continue as Guest" on the DMV's website and proceed directly to submitting your voter registration.

If you don't have a license from the DMV, you can download a voter registration form at [ncsbe.gov/registering](https://ncsbe.gov/registering), and then print, sign, and submit that paper form to your county board of elections. Contact and address information for the 100 county boards of elections is available here: <https://vt.ncsbe.gov/BOEInfo/>.

The State Board will provide updated information as this legal dispute develops.

###



Unsubscribe

This message was sent to **matthew.snyder@watgov.org** from **ncsbe.comms@ncsbe.gov**

NC State Board of Elections  
North Carolina State Board of Elections (NCSBE)



## Matthew.Snyder

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**From:** Matthew.Snyder  
**Sent:** Tuesday, April 8, 2025 10:17 AM  
**To:** Donna Houck; Brad Henderson  
**Subject:** Griffin case reply with voter registration form  
**Attachments:** NCVoterRegForm\_06 March 2025.pdf

Regardless of the ultimate outcome of this ongoing legal dispute, any voter who is concerned that their voter registration information is incomplete or is not up to date should submit an updated voter registration form. Submitting an updated voter registration form is easy. Any voter who has a license from the DMV can go to [payments.ncdot.gov](https://payments.ncdot.gov) to fill out a voter registration application. If you're already registered, submitting this information will merely update your existing voter registration. You don't need to create a special account with the DMV. You can select "Continue as Guest" on the DMV's website and proceed directly to submitting your voter registration. If you don't have a license from the DMV, you can download a voter registration form at [ncsbe.gov/registering](https://ncsbe.gov/registering), and then print, sign, and submit that paper form to your county board of elections. Contact and address information for the 100 county boards of elections is available here: <https://vt.ncsbe.gov/BOEInfo/>. For your convenience, a voter registration form with our mailing address is attached.

Matt Snyder  
Director  
Watauga County Board of Elections  
842 West King Street, Suite 6 - PO Box 528 - Boone NC 28607  
Phone: 828-265-8061 Fax: 828-265-8068  
Email: [matthew.snyder@watgov.org](mailto:matthew.snyder@watgov.org)




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### DIRECTOR'S UPDATE APRIL 8, 2025

- NCADE Conference- 40 new directors well attended; growing digital divide b/n large & small counties
- Tom Rokoske – Fred Badders
- Yadkin, Ashe, Caldwell deaths
- Wilkes and McDowell directors retiring
- SB 382- state is preparing for implementation, not hearing much on the relevant court cases
- April 1<sup>st</sup> Shredded 2022 unvoted ballots, Provisionals, Registration Forms, ATV forms; 2023 Unvoted Ballots; 2024 unvoted ballots (used 18 – 65 gallon containers – cost \$1170) – will shred rest of documents past retention dates in 2 weeks
- Storage Area- waiting on updates 
- New Hanover County article
- Duke Research Project
- Griffin case

Watauga County, NC

## Purchase Proposal Quote

Submitted by Election Systems & Software

Quote Date: 4/6/2025

Quote Valid Through: 5/6/2025

### Purchase Solution Includes:

Quantity	Item Description	Unit Price	Extended Price
<b>Tabulation Hardware</b>			
	<b>DS200 Poll Place Scanner and Tabulator:</b>		
31	REFURBISHED DS200 (Includes Internal Backup Battery, Plastic Ballot Box with Removable Carrying Case, Paper Roll and One (1) Standard 4GB Memory Device)	\$6,140.00	\$190,340.00
31	Tote Bin	\$395.00	\$12,245.00
10	Standard 4GB Memory Device (Additional)	\$115.00	\$1,150.00

### Software

1	Electionware Election Management Software - Reporting Only Base Package		No Charge Upgrade
1	Media Burn Capability		No Charge Upgrade

### Services

2	Implementation Services	\$2,050.00	\$4,100.00
X	Tabulation Equipment Operations Training		
1	Election On-Site Support	\$5,675.00	\$5,675.00
X	Tabulation Equipment Installation		\$4,185.00
X	1 Year Hardware and Software Warranty		Included
X	Estimated Shipping and Handling		\$11,780.00
X	Customer Loyalty Discount		
X	Trade-In Allowance. Equipment Being Traded-In by Customer Includes:		
	31 - Model 100 Scanner (\$200.00 Per Unit)		(\$39,132.00)
	31 - Model 100 Ballot Box (\$100.00 Per Unit)		(\$14,300.00)
	1 - Model 650 Scanner (\$5,000.00 Per Unit)		

### Total Purchase Solution

**\$176,043.00**

### Purchase Payment Terms

Amount due within thirty (30) calendar days of contract execution:

\$88,021.50

Amount due within thirty (30) calendar days of delivery of Hardware and/or Software:

\$88,021.50

### Lease/Purchase Financing Option:

Annual Payment for a Three (3) Year Term

**Annual Payment**  
**\$62,972.00**

### Lease/Purchase Financing Notes:

1. First Payment due at contract execution and annually thereafter.
2. Payments do not include Annual Post-Warranty License and Maintenance and Support Fees which will be invoiced separately.

### Footnotes:

1. This quote is an estimate and is subject to final review and approval by both ES&S and the Customer.
2. Any applicable (City & State) sales taxes have not been included in pricing and are the responsibility of the customer.
3. Subject to state, municipal, jurisdictional, provincial or territory laws to the contrary, the above pricing information is confidential, proprietary and trade secret information of ES&S and is intended only for the use of the individual or entity to which the document is directed to. This information may not be disclosed or reproduced either publicly or to any other individual or entity without the prior written authorization of ES&S.
4. The quantity of service days reflects a reasonable estimate for implementation and selected ongoing election services. Quantities may change depending on specific Customer needs.
5. Annual Software License, Maintenance and Support Services for the Electionware Software quoted above will be invoiced upon expiration of Customer's current Software License Maintenance and Support Services Agreement.
6. ES&S will coordinate the pickup and transportation of the trade-in equipment from Customer's site on a date to be mutually agreed upon by the parties. Customer is responsible for preparing, packaging and palletizing the trade-in equipment for shipment.



## PROPOSAL

**TO:** North Carolina State Board of Elections

**FROM:** Printelect

**RE:** Consideration and Approval of Proposed Process  
Change for Voting Tabulation Systems in Watauga  
County, North Carolina

**DATE:** March 20, 2025

---

### **Proposal For Approval Of Voting Tabulation System Process Change In Watauga County, North Carolina**

This proposal serves as a request for the North Carolina State Board of Elections ("NCSBE") to approve usage of the AutoMARK Ballot Marking Device as an Americans with Disabilities Act ("ADA") compliant system for Watauga County tabulation systems utilizing ES&S Electionware's 6.3.0.0 ("EVS") software platform. Please see below for additional information provided by Printelect in support of this proposed change of Watauga County's election system processes.

#### **1. AutoMARK Background Information**

##### **1.1 AutoMARK Manufacturing History**

The AutoMARK was originally manufactured and patented as a ballot marking device in 2003. The primary purpose of the AutoMark was to allow voters with disabilities to cast ballots privately and independently at polling locations across the country. The AutoMARK was designated as a certified voting system in 2005, and ES&S subsequently acquired the AutoMARK system in 2008.

##### **1.2 AutoMARK Usage in Multiple Elections Equipment Manufacturer Configurations**

There is evidence supporting the AutoMARK's usage as a standalone ballot marker system despite its common usage as an ancillary device working in conjunction with ES&S tabulation systems. Primary examples of AutoMARK



independent ballot-marking usage include jurisdictions utilizing Sequoia and Premier/Diebold equipment over the past several years.

### 1.3 AutoMARK Usage in North Carolina To Date

AutoMARK systems originally certified by North Carolina utilized ES&S's Unity tabulation equipment software platform for functionality. North Carolina jurisdictions utilizing the AutoMARK continued working with the Unity software platform for the last approximately 20 years. However, jurisdictions utilizing Unity have shifted to ES&S's Electionware tabulation equipment software platform over the past few years as ES&S phases out software support services for the deprecated Unity software platform. AutoMARKs are also currently certified for use in North Carolina with ES&S tabulation systems utilizing the ES&S EVS 5.2.4.0 software platform.

## 2. Justification For Proposed Process Change

Printelect's request for consideration and approval of the AutoMARK system as an approved ADA ballot marking device to be used in conjunction with EVS 6.3.0.0. DS300 tabulation equipment is due to the imminent deprecation of ES&S Unity software platform support services across all ES&S jurisdictions. The only jurisdiction in North Carolina with tabulation equipment utilizing the Unity software platform is Watauga County. Watauga County currently uses ES&S M100 tabulation systems and must purchase new equipment systems prior to November 2025.

Watauga County has expressed interest in purchasing the Voluntary Voting System Guidelines ("VVSG") 2.0-ready ES&S DS300 tabulation system. While Watauga County has considered upgrading to other certified tabulation systems, those systems are considerably older and do not meet VVSG 2.0 hardware requirements. Watauga County's selection of any non-VVSG 2.0 tabulation system will likely lead to a significantly shorter tabulation equipment lifecycle.

Watauga County recently held a public demonstration of the ES&S ExpressVote ballot marker device as a potential AutoMARK replacement. Public comments after the equipment demonstration quickly identified that the Watauga County voter base held concerns with the difference in ballot stock size used by the ExpressVote when compared to other ballot marking/tabulation devices. Attendees at the public meeting additionally asked whether or not they could continue to use Watauga County's existing AutoMARKs with the ES&S DS300 tabulation system until a successor device to the AutoMARK (currently in development and testing by ES&S) is certified.



### **3. Examples of Prior NCSBE Decisions to Allow External Software Platform Utilization For Voting Processes**

There is precedent established by the NCSBE to allow outside software or applications to be a part of election programming.

Currently, a state-certified application, Toolbox, resides outside of Electionware and is used to create election audio files which are then imported back into the election database. Printelect believes that the NCSBE's decision to utilize this tool shows an understanding the particular requirements of election setup as it relates to adaptive software solutions. The NCSBE additionally allows ADA-required programming to be done outside of a primary election database.

Printelect believes that using Electionware EVS 5.2.4.0 (which is currently certified by NCSBE) to generate AutoMARK programming to be used with EVS 6.3.0.0 tabulation equipment shows similarities to the creative thought process previously used by the NCSBE in making the decision to utilize Toolbox. Printelect suggests that the proposed course of action will not fall outside the permissible scope of the NCSBE's authority.

### **4. Proposed Elections Process for Watauga County Moving Forward**

Please see below for proposed steps by Printelect to support Watauga County elections scenarios utilizing a combined EVS 5.2.4.0 AutoMARK and EVS 6.3.0.0. DS300 equipment ecosystem moving forward.

- Printelect election coders have extensive experience providing coding services for NC customers utilizing both EVS 6.3.0.0 and EVS 5.2.4.0. This experience will be used to ensure accurate and successful election programming in the proposed "hybrid" EVS 5.2.4.0 and EVS 6.3.0.0 software platform.
- Printelect will ensure that elections programming for ballot layout, tabulation and results reporting for Watauga County will occur solely in Electionware EVS 6.3.0.0. (PE)
- Election audio .wav files and AutoMARK programming will be created in Electionware EVS 5.2.4.0. (PE)
- No election data will be shared between the two databases. This eliminates any possibility of potential data conflicts. The common element would be ballot layout for tabulation on DS300s and ballot marking by the AutoMARK systems. (PE)
- The same data from NCSBE will be imported for ballot content in Capture Modules. (PE)

# Printelect

- Identical layout templates will be used to create the paper ballot .pdf files in Paper Ballot Modules. These .pdf files will also be compared with Diff-pdf and Adobe software platforms to ensure matching oval positions. (PE)
- All paper ballot printing, including BOD set-up, will be done using the ballot PDF set from EVS 6.3.0.0. (PE)
- For use in the processes of testing by Printelect, testing in the county by staff and actual voting by voters with disabilities ballots to be used in the AutoMARK will be programmed in EVS 5.2.4.0 which has the identical pdf in the election database. (Both PE and County)
- County personnel would only use Electionware EVS 6.3.0.0. to burn media and report results. AutoMARK files would be provided to the customer by coding staff at Printelect in the same manner in which they are currently provided. County personnel will be able to use the same file process as in past elections to enable AutoMARK ballot marking. (County)
- A test deck of ballots will be created with the AutoMARK marking every oval position and tabulated in the DS300 to ensure accurate election results. (County)

## 5. Conclusion

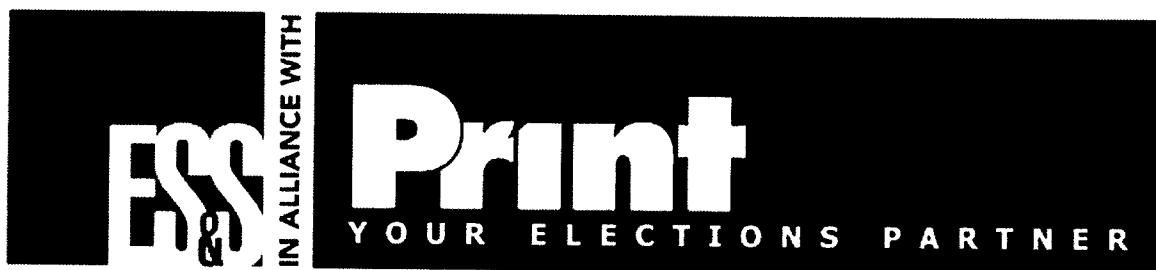
Printelect respectfully requests consideration and approval of the above proposed process. Printelect will ensure that vigorous testing and vetting of a "hybridized" Electionware ecosystem provides accurate results for ADA programming, tabulation system media burning, and vote reporting for Watauga County and the NCSBE.

Printelect is prepared to provide any and all information in its possession to ensure that utilization of this proposed process meets the exacting standards set by the NCSBE, Watauga County, and NC voters. We appreciate the Board's consideration of this proposal, and please do not hesitate to let us know if there is any additional information or clarification we can provide.

Thank you,



Elliott Andrews  
General Counsel



April 1, 2025

Owen Andrews, President  
Michelle Mrozowski, Account Manager  
Printelect  
3731 Trent Road  
New Bern, NC 28562

Matthew Snyder, Director  
Michael Behrent, Chair  
Matt Walpole, Secretary  
Leta Councill, Member  
Eric Eller, Member  
Elaine Rothenberg, Member  
Watauga County Board of Elections  
842 West King Street, Suite 6  
Boone, NC 28607

Dear Matt and Board Members:

Thank you for giving us the opportunity to share the newest certified voting system in North Carolina from our partner, ES&S. We are grateful for the opportunity to continue to be Watauga County's election partner going forward.

We attended the follow-up public meeting and had an opportunity to hear the questions and concerns raised by the public, pollworkers and board members. We want you to know we listened and are working to provide you with some options to consider to address needs particular to Watauga County.

**Demonstrated and Quoted Solution**

Based on communications with you, we demonstrated EAC and NC State-certified certified equipment using EVS 6.3.0.0.: DS300 poll place tabulator, ExpressVote universal ballot marking device, DS950 high speed central count tabulator, Ballot on Demand printer, and Electionware software. Both the DS300 poll place tabulator and the DS950 high speed scanner are VVSG 2.0 compatible.

This is an excellent time to purchase next-generation equipment since, 1) ES&S support is ending for the current system used by Watauga County; including Unity software and M100

tabulators; and 2) The State Board of Elections sought and received grant funding to assist counties using Unity software versions to upgrade to a supported version. We brought the latest certified system which is VVSG 2.0 compatible to ensure the system meets the County's needs well into the future.

### **Public Comment and Feedback**

At public comment, we heard the feedback provided regarding the demonstrations.

1. Some voters made clear that ExpressVote as a ballot-marking option was not preferable in Watauga County. ExpressVote has been used in thousands of elections across the country, including in North Carolina. Still, we heard concerns and a preference for keeping the current ADA ballot marking device, AutoMARK.
2. Some staff did not consider the addition of a DS950 or DS450 high speed tabulator to be a necessity, especially in light of the State Board of Elections possessing a compatible high speed DS450 available for Watauga to use if needed.
3. There were budgetary concerns about the high cost of tabulation equipment replacement. Although our quote was comparatively higher in cost to the competitor's, it did not represent an apples-to-apples comparison. Our quote represented newly-certified options and our competitor's quote does not reflect a go-forward product.

### **Seeking Continued Use of AutoMARK for ADA**

We all desire to be good stewards of the public's money. To that end, we are exploring other possibilities that would allow Watauga County to continue to use its current ADA ballot marking device, the AutoMARK until a newly certified version becomes available. This would entail using the other version of ES&S software certified in North Carolina, EVS 5.2.4.0., which also does not include equipment compatible with the VVSG 2.0., until such time as an AutoMARK replacement becomes certified and available to purchase. Ballots cast by voters with disabilities on either AutoMARK or a replacement product would be indistinguishable from hand-marked paper ballots.

Attached you will find our communication to the State Board of Elections (SBE) asking for consideration to use DS300 tabulators with AutoMARK ballot marking devices. Also attached is the response. We are currently working with ES&S and the SBE and hope this will be a viable solution for Watauga County. It may take some time to work through, and we are respectfully requesting that you delay your decision until we are able to progress through the process.

### **Why Choose Us?**

We believe – as did many participants in the public meeting – that the Printelect/ES&S solution works well for Watauga County. We appreciate the kind words from staff recognizing our stellar level of support over the years. We recognize this is a big decision and provide the following input and hope it resonates as good reasons our solution is best for Watauga County going forward:

- The DS300 poll place tabulator and EVS 6.3.0.0. is the best solution for vote tabulation in the county. Security, reliability, flexibility and auditability make our solution the most robust in the election space.
- Our system is the simplest on the market for staff to test, troubleshoot, secure and deploy. It is also the easiest for your pollworkers to open and close polls. Pollworkers using the ES&S system only have to set up two pieces of equipment and can be ready



for voting in less than five minutes. ES&S voting systems are familiar to your staff, pollworkers, and voters; making the transition from M100/AutoMARK to our newer system seamless and uncomplicated.

- Not only does Watauga County enjoy very flexible payment plan options with Printelect/ES&S, there are also no surprise costs throughout the year. This is a huge help when budgeting and working within fiscal constraints of the county. We offer multi-year installment payment plans (two or three years).
- If Printelect/ES&S is successful in allowing for the continued use of the current ADA ballot marking devices, it presents a considerable and immediate cost savings toward the purchase of a new voting system.
- Printelect provides annual maintenance services on all voting equipment. This leads to equipment longevity, as evidenced by the nearly 20 years of usability experienced with your M100s and AutoMARKs. Firmware and software upgrades are included in the annual fees and all are performed in your county by certified technicians. Unlike with other vendors who do not offer on-site maintenance and support, there are no surprise costs with our solution.
- All Printelect support, service, coding, equipment, ballot printing and personnel reside in the State of North Carolina.
- Printelect employs two full-time, seasoned election professionals in western North Carolina within approximately an hour of your Boone' offices. Printelect employs more than 70 personnel in Garner, New Bern and other locations across the State.
- We share a long and successful history assisting with Watauga County elections. Printelect provides supplemental equipment and personnel services when needed without delay. We have demonstrated we go the extra mile to ensure Watauga County's success.
- With the majority of North Carolina counties choosing ES&S, Printelect and ES&S will be active vendor partners in North Carolina for many years to come. Consider the risk of selecting an out-of-state vendor without a substantial market share in the State.
- While the State Board of Elections doesn't advocate for the purchase of any particular vendor's system; it has purchased Balotar systems (ballot on demand printing) for each district and at the State office. These systems produce emergency ballot printing for ES&S customers. The State also purchased high speed ballot counters (DS450s) and deploys them regionally to be used by counties using ES&S-coded elections in the case of recounts or other high-volume ballot counting needs. Consider purchasing a system with access to these resources versus contracting for a system incompatible with them.

There is strength in all of your neighbors using the same hardware and software. When neighbors help neighbors, best practices are developed and resources can be shared. Why choose a system only used by 7% of North Carolina counties, and are supported in a different time zone when you can enjoy the benefits of group collaboration and local support? All counties in your district have moved forward with an ES&S/Printelect voting system.

ES&S stands behind its equipment. It offers secure, purpose-built equipment which is meant to last. Printelect stands behind its services and has a long history of election coding, technical support, preventive maintenance and ballot printing. We want to thank you for the nearly 20 years of sharing a successful and trusted working relationship. North Carolina isn't just our

business, it is our home. Working together for the cause of successful elections is our primary goal and commitment.

If we can answer any further questions or discuss financing options, please do not hesitate to reach out. We will keep you advised on our progress toward DS300/AutoMARK certification. Again, we would request that any decision be delayed until we have such time as to present a voting system solution that allows Watauga County the continued use of its AutoMARKs.

We are ready to support you for the next decade and beyond.

Sincerely,

Owen Andrews, President

Michelle Mrozkowski, Account Manager

cc: Braxton Eggers, Chair, County Commission

Stacy 'Four' Eggers, IV, State Board of Elections Member

## Matthew.Snyder

---

**From:** Bob Heisner <bheisner@hartic.com>  
**Sent:** Tuesday, April 8, 2025 1:00 PM  
**To:** Matthew.Snyder  
**Subject:** RE: [EXTERNAL SENDER] Watauga County Board of Elections meeting announceent  
**Attachments:** VVSG 1.0 2.0 040725.pdf

Good Morning Matt,

Thanks for the meeting information, both my self and VP of Sales Felice Liston are planning to join the meeting around 5:30.

As a follow up to our conversation around the Presidents EO and most specifically, how the EO could impact voting systems and the new EAC VVSG 2.0 standards. As of this morning, there have been a handful of lawsuits filed against the EO. The current chatter in DC and the states is that the lawsuits will cause the EO to get tied up in the courts for an undetermined amount of time. I think its safe to say there is a lot of uncertainty about and around the EO.

What we do know is there are no voting systems that have been certified to the VVSG 2.0 guidelines. Smartmatic was the first manufacturer to submit their application to the EAC for VVSG 2.0 certification. The EAC accepted Smartmatic's VVSG 2.0 application on March 31, **2023**, and their system continues to be under test. To date there are **only 2** other voting systems in VVSG 2.0 certification; Hart InterCivic Vanguard and Voting Works. Additionally, the U.S. Election Assistance Commission (EAC) currently has no plan to "decertify" VVSG 1.0 or any voting systems that are certified to 1.0 requirements.

The EO also states "voting systems should not use a ballot in which a vote is contained within a barcode or quick-response code in the vote counting process...". Regardless of the ultimate outcome of the EO, Hart's VVSG 1.0 and 2.0 systems meet this requirement. Hart's Verity Voting System **does not** utilize a barcode for vote tabulation in any circumstance.

The attached provides a security summary between Hart's VVSG 1.0 and VVSG 2.0 voting systems, listed by security requirements. As reflected in the document, Verity VVSG 1.0 – the system Watauga County is contemplating purchasing – provides the County with 2.0 security requirements except for two – restricted area alarms and port access alarms and controls (see Pg 3 of the attached .pdf). Many security requirements now in VVSG 2.0 were already a part of the Verity 1.0 solution!

Hart offers two options for jurisdictions moving from a VVSG 1.0 certified system to a VVSG 2.0 certified system:

1. Mixed system – components of our VVSG 2.0 system, when certified, can be used with our certified VVSG 1.0 system. For example, the precinct scanner from our VVSG 2.0 system can be used with the other components of the VVSG 1.0 system. Using a Verity mixed system requires only the precinct scanner to be replaced, not Verity software. This "stair-step" approach allows jurisdictions to plan their budgets over time. If a jurisdiction chooses the mixed system approach, the system remains **VVSG 1.0** certified.
2. Rip and replace – an entire voting system (hardware and software) can be removed and our VVSG 2.0 system, when certified, can be put in its place. If a jurisdiction chooses the rip and replace approach, the new system will meet VVSG 2.0 requirements, provided the new system has been certified by the EAC and the State of Texas to VVSG 2.0 standards.

We will offer the County a "Bridge to VVSG 2.0" option that assures the county receives a trade-in discount if our VVSG 2.0 system comes along sooner rather than later, and the County chooses to purchase our VVSG 2.0 system.

I hope this information can prove to be helpful to you and the Board as you continue to contemplate the purchase of your next voting system.

Please don't hesitate to let me know if you have any questions,

Best Regards,  
Bob



**Bob Heisner**

Director of Sales

Hart InterCivic

618.521.9733 (mobile) | 512.252.6918 (efax) | 800.223.HART

bheisner@hartic.com | [www.hartintercivic.com](http://www.hartintercivic.com)

**From:** Matthew.Snyder <Matthew.Snyder@watgov.org>

**Sent:** Monday, April 7, 2025 1:23 PM

**To:** Bob Heisner <bheisner@hartic.com>

**Subject:** [EXTERNAL SENDER] Watauga County Board of Elections meeting announceent

**CAUTION:** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

**County Board of Elections**

The Watauga County Board of Elections will meet Tuesday, April 8, 2025 at 5:00p.m. in the County Administration Building located at 814 West King Street, Boone, NC 28607. This meeting is open to the public.

Join Zoom Meeting

<https://us02web.zoom.us/j/82486101478?pwd=aiG4c507SePFAshVG2aaN0dNRyux6m.1>

Meeting ID: 824 8610 1478

Passcode: 856239

OR

Dial by your location

• +1 309 205 3325 US

• +1 312 626 6799 US (Chicago)

**April 8, 2025**

**AGENDA**

1. CALL TO ORDER
2. PLEDGE
3. APPROVAL OF MINUTES FROM MARCH 11, 2025
4. NEW REGISTRATIONS AND STATISTICS

**Matthew.Snyder**

---

**From:** Michelle Mrozkowski <michellemrozkowski@printelect.com>  
**Sent:** Monday, April 7, 2025 11:59 AM  
**To:** Matthew.Snyder  
**Subject:** Additional information on DS300/AutoMARK that may be helpful

3.4.1.1 General Standards

The voting system or equipment must meet the requirements contained in the version or versions of the Voluntary Voting System Guidelines (VMSG) currently accepted for testing by the U.S. Election Assistance Commission (EAC).

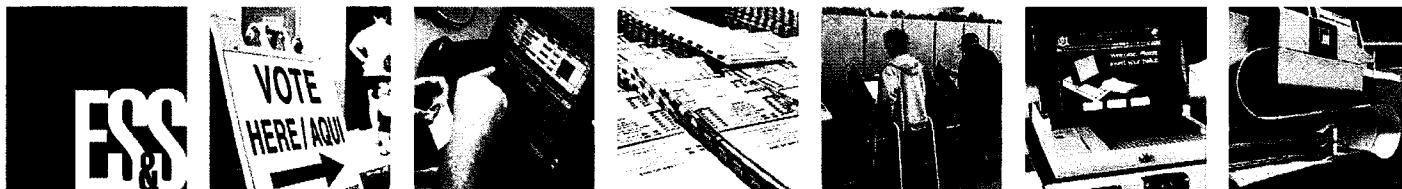
You may already be aware of this, but to clarify: The state is interpreting their certification standards to mean that they can only certify anything that is past the current VSG standard. They won't certify anything that isn't 2.0 now.

Where we stand is this configuration must be VSTL tested and one of the biggest hurdles on the state certification of the proposed system is they are reading the 'currently accepted' as meaning VMSG 2.0 since VMSG 2.0 is the current accepted standard going forward with the EAC. The proposed 5240/6300 solution would not satisfy the VMSG 2.0.



**Michelle Wyatt Mrozkowski**  
*Regional Account Manager*  
Printelect  
**Direct:** (828) 206-7730  
**Main Office:** (252) 633-3197  
[www.printelect.com](http://www.printelect.com)  
3731 Trent Rd. New Bern, NC  
28562

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**Election Systems & Software, LLC**  
 11208 John Galt Blvd  
 Omaha, NE 68137

## EVS 5.2.4.0 Reporting Standard Standalone System Purchase Order

This Purchase Order is valid through May 11, 2025 (See Note 1).

**State of North Carolina BOE**

430 N. Salisbury Street  
 Raleigh, NC 27603

Quantity	Part #	Description	Price	Ext. Price
<b>EMS WORKSTATION</b>				
1	96164	DELL LAPTOP - REFURBISHED	\$1,047.00	\$1,047.00
		<ul style="list-style-type: none"> <li>• Dell Latitude 5580 (6th Gen)</li> <li>• i5-6300U CPU</li> <li>• 16GB RAM</li> <li>• 512GB SSD</li> <li>• Windows 10 Pro downgraded to Win 7</li> </ul>		
1	96002	DELL EXTERNAL USB SLIM DVD+/-RW OPTICAL DRIVE	\$70.00	\$70.00
1	96008	*SYMANTEC ENDPOINT PROTECTION 14.0.1	\$61.00	\$61.00
<b>MISCELLANEOUS COMPONENTS</b>				
1	97-10049-00	EMS REPORT PRINTER – L6400DWVS – BROTHER HL-L6400B/W DUPLEX LASER PRINTER	\$570.00	\$570.00
1	96016	LD 6' USB 2.0A-B CABLE, T, IVOTR, RTAL 6' USB CABLE	\$8.00	\$8.00
<b>SERVICES</b>				
1	510210	STANDALONE EMS INSTALL	\$1,540.00	\$1,540.00
		<ul style="list-style-type: none"> <li>• Staging of EMS workstations at ES&amp;S Technical Services lab.               <ul style="list-style-type: none"> <li>◦ Includes the installation, configuration, and testing of EMS workstation.</li> </ul> </li> <li>• Equipment is shipped to customer location.               <ul style="list-style-type: none"> <li>◦ Physical installation of workstation and related hardware (Printer, UPS, etc.) performed by customer.</li> </ul> </li> <li>• EMS installation summary documentation provided to customer upon completion of installation.</li> </ul>		
<b>SHIPPING AND HANDLING</b>				

1	FREIGHT	SHIPPING & HANDLING - EMS EQUIPMENT	\$199.00	\$199.00
		Order Total		\$3,495.00

**Invoicing and Payment Terms:**

100% of Order Total Due Thirty (30) Calendar Days after the later of (a) Equipment Delivery, or (b) Receipt of corresponding ES&S Invoice.

**Note 1:** This Purchase Order is valid through the date set forth above (the "Expiration Date"). Due to fluctuating pricing and availability of third party hardware and software, this Purchase Order shall expire and be of no further force and effect in the event the Customer does not sign and return this Purchase Order for execution by ES&S prior to the Expiration Date. In the event this Purchase order expires, ES&S shall provide the Customer with a new purchase order which may include changes in both pricing and third party equipment and software components.

**Note 2:** Unless otherwise indicated, any applicable (City & State) sales taxes have not been included in pricing and are the sole responsibility of Customer.

**Note 3:** Network Cabling is not included.

**Note 4:** Third Party Items are purchased directly from the component manufacturers and lead times may vary. In order to allow ES&S sufficient time to receive, configure, deliver and install the Third-Party Items, ES&S strongly recommends that the Customer sign and return the Purchase Order at least sixty (60) calendar days prior to the Customer's expected delivery date. Delivery and installation at Customer's location shall be scheduled subject to ES&S' receipt and configuration of the Third-Party Items. ES&S shall not be responsible for any delays caused by supply chain shortages or availability of any parts or components of any Third-Party Items.

**Note 5:** ES&S reserves the right to substitute third party equipment and software components contained herein provided such substitutions are of the same or greater quality and such substitutions meet any applicable requirements in order to be used in

By signing below, Customer acknowledges that ES&S is purchasing the third party items set forth herein ("Third Party Items") for resale to Customer, and that the proprietary and intellectual property rights to the Third Party Items are owned by parties other than ES&S ("Third Parties"). Customer further acknowledges that except for the payment to ES&S for the Third Party Items, all of its rights and obligations with respect thereto flow from and to the Third Parties. ES&S shall provide Customer with copies of all documentation and warranties for the Third Party Items which are provided to ES&S.

Customer Signature

Date

Title

# Notes on Hart-Intercivic and ES&S Voting Systems

Frank Barry

As a citizen of NC and Watauga county in particular, my primary interest is in election security both regarding voting equipment and the voting process. I attended both of the recent vendor demonstrations of their latest voting equipment, and my background is in computer systems, particularly "embedded" or "single purpose" computer systems, hardware and software.

In order to get information fairly quickly about the security history/vulnerabilities of both Hart Intercivic (Hart) and Election Systems & Software (ESS) voting equipment I used two AI assistants: **ChatGPT** and **Grok** to lookup and summarize many websites/pages and other online documentation about the companies and voting equipment. Both provided similar results (Grok tended to provide more assumptions prior to giving answers which made the answers clearer). In addition to using the AI assistants I also read over vendor documentation and the information obtained by email from each vendor in response to a few of my questions.

The rest of this document includes:

1. Summary
2. Observations and Notes
3. Sample responses from AI searches (details)
4. Specific answers provided by the vendors to emailed questions

## Background:

- (1) For this document Hart-Intercivic will be referred to as "Hart", and Election Software & Systems will be referred to as "ESS".
- (2) DEF CON is one of the world's best known computer hacker conferences. **DEF CON Voting Village** was created by a team led by Jake Braun (lecturer and senior advisor at The University of Chicago) with the first event held in 2017. From the DEF CON website (<https://www.defcon.org/>): "In 2017, we launched the Voting Village at DEFCON, the first public forum where hackers and members of the public could have legal, unconstrained, hands-on experience with actual election systems used in the United States and elsewhere."
- (3) A **vulnerability** is a **potential security weakness** that may or may not be proven through testing. Some vulnerabilities are proven weaknesses having been demonstrated in lab settings. Others are speculative based on proven weaknesses in similar systems.



# 1 Summary

- Both Hart and ESS are privately held companies and their software and systems are proprietary. Details of hardware and software designs and architecture are not available for public review. Both have been certified by the U.S. Election Assistance Commission (EAC).
- According to the most recent DEF CON Voting Village assessments in 2024, both Hart and ES&S voting systems have security vulnerabilities (however, as of this writing, the full report from DEF CON from 2024 is not available). Most vulnerabilities require physical machine access. Some vulnerabilities found in the past were not addressed quickly and persisted in later models of the same systems which leads to speculations about which past identified vulnerabilities have actually been fixed in the latest systems.
- Both vendors say that they do not contain modems or any means for connecting to a remote source. This cannot be verified without access to technical hardware docs. While most general purpose motherboards (for PCs, notebook computers) have these options in separate chips, other embedded systems (such as those running in printers/scanners) might use SoCs (system-on-a-chip) that integrate WiFi and bluetooth on a single chip. If a feature can be enabled/disabled, then it is present in the hardware and can be used.
- Both Hart and ESS provide detailed event logging of all machine detectable events, but the event logs must be audited in order to verify system security.
- Election processes followed by administrators and poll-workers are just as essential to securing an election as the hardware itself. This includes securing equipment and passwords/keys, and auditing equipment logs for anomalies.

## 2 Observations and Notes

These are some observations and notes after attending the equipment demonstrations, reading literature, exchanging emails with company representatives, and considering the voting process. I was reminded by one of the Watauga election-workers after I asked a technical question (which probably sounded skeptical) at one of the demonstrations, that “at some point you just have to trust”—or words to that effect. I agree. But it depends on what that “point” is. The job of the BOA is not to “trust”, but rather to “establish trust” – on the part of the citizens of Watauga county. That is, the BOA should be as skeptical and inquisitive as necessary to ensure that *elections are worthy of trust*. The purpose of these notes/observations or recommendations is an effort to help establish trust.

1. The two primary areas of appeal in the demonstrations seemed to be security and convenience (with “support” coming in third place). However, I felt that most of the emphasis was on convenience—particularly from the admin/poll-worker perspective (based on questions asked from the audience as well as presentation emphasis). I understand the concern from the poll-worker perspective, but for me (and I expect other

citizens in the county) security is far more important. Second to that is cost. I don't know what the systems cost from the two vendors, but I would prefer the one that meets the functional and security requirements at the lowest overall cost. I would rather see a little less convenience (if necessary) to ensure a secure result at a lower cost. It is understandable that vendors emphasize convenience because their audience typically consists of administrators and election workers and not the average citizen (who pays for this equipment indirectly through taxes).

2. Features mask complexity, and complexity increases vulnerability. Usually "simpler is better" from a security standpoint. Sometimes what appear to be "simple" features, implemented in hardware and software often introduce security vulnerabilities for the sake of convenience. For example, the inkjet imprinter (ESS DS300) that can optionally add marks to a ballot as it is scanned (intended for adding unique serial numbers) is a complex feature with a good purpose (link a physical ballot to the internal log). Is software to add marks to a ballot after a voter has submitted it a good idea from a security point of view? Maybe it depends on where the ink jet printer can physically print on the ballot—but I don't have that information. It requires time to find out. It's complex. Software that supports "ranked-choice voting" (RCV) allows votes to be fractionally allocated among candidates. Should this even be present in systems for states that don't allow it? Neither ESS nor Hart support RCV in the precinct level equipment we are evaluating now—however it is supported at a higher level in election management software, ESS Electionware software, and Hart's Verity Election Management or Verity Count. Almost any feature that is present in a system can be hacked and exploited (otherwise cybersecurity spending would not be roughly \$250B annually).
3. Because of the history the county has had with ESS I sensed (and I could be wrong) an inherent bias toward their solution. That is somewhat understandable given the fact that the reps are known by those involved in administering elections. My impression of the two systems was that the Hart system (Verity) was the simpler of the two while still providing the necessary function. In my email exchanges (see section 4 below) I believe the Hart representative (Mike) gave more specific and timely answers to my questions. He also provided samples of the machine logs that I could examine. The ESS representative did not respond for several days and did not answer directly but gave me another email address to send questions to. After sending them there, the responses were partial and generally just referred to published docs I'd already looked over. I understand being busy and not responding to every email immediately—so that may not be an issue—but which will provide better responsiveness in the future?
4. Both systems require the election administrators and poll-workers to follow a specific "work-flow" to ensure a secure and efficient election. Which provides a simpler work-flow for the complexity of Watauga's elections? **Part of the work-flow should include an audit of the machine logs for any anomalies, particularly for administrator accesses, mode changes, etc.** If this is not done, then one of the most important security features (if not the most important) is voided.

5. Physical security of equipment (including machines, USB keys, USB data drives, etc.) is essential for election security and establishing trust in an election. The means for guaranteeing physical security should be written down, available to the general public, followed, and amenable to audit. If secure storage of devices is needed (e.g. a "bear cage") this could probably be sourced from any of several vendors.
6. Election administration procedures ("work-flow") should be documented, and available for review by the public, preferably on the county website. From what I've heard (and to some extent seen), elections in Watauga county are administered and run extremely well. It would be great to have that be more visible to the public.
7. I may be somewhat biased (as may be seen from my notes) toward the Hart solution for voting equipment. That is mainly because the overall system seemed simpler (not necessarily more convenient, but not obviously less convenient), it seemed to support the required functions without as much marketing glitz (some of that impression was from the respective materials). As for service (outside of the election context), Mike's responsiveness to my questions, even though I'm not a decision-maker for the equipment purchase, was excellent (e.g. sending sample files containing machine logs in two formats). How does the equipment work in an election? How is support handled under pressure? Those are questions that hopefully will be answered by contacting other county election representatives in NC (and maybe Texas or Colorado).

(Note: I had no knowledge of either vendor's equipment until Matt Snyder sent me some documentation of each in mid-February).

### 3 Example AI Assistant (GROK) Q&A

**Question: What are the most recent vulnerabilities found in both Hart Intercivic and ES&S voting equipment?**

**Grok:**

*Identifying the most recent vulnerabilities in Hart InterCivic and Election Systems & Software (ES&S) voting equipment requires piecing together information from public reports, security research, and official statements, as both companies keep detailed technical data proprietary and vulnerabilities are often disclosed with delays or limited specifics. As of March 27, 2025, here's what's known about recent findings based on available sources, focusing on developments since 2020, with an emphasis on the latest credible assessments.*

#### **Hart InterCivic Vulnerabilities**

Hart InterCivic's Verity Voting system—encompassing Verity Scan (precinct scanner), Verity Central (high-speed central scanner), and Verity Duo (hybrid ballot-marking device)—is widely used across states like Texas, Michigan, and Colorado. Recent vulnerabilities stem from security research and real-world incidents:

- **DEF CON Voting Village 2024 (August 2024):**
  - At the DEF CON conference in Las Vegas, hackers at the Voting Village probed various voting machines, including Hart's Verity equipment. While the full report isn't public yet (typically released weeks later), initial coverage from Politico and The Independent noted "scores of vulnerabilities" across multiple vendors' systems, consistent with prior years. Specifics for Hart included:
    - **Physical Access Weaknesses:** Verity Scan units were compromised via USB ports or memory card slots in minutes, allowing firmware tampering. This echoes 2007 California and Ohio EVEREST findings but shows persistent issues in newer models.
    - **Software Exploits:** Researchers bypassed authentication on Verity Count software, potentially enabling vote data manipulation. Exact methods (e.g., buffer overflows) weren't detailed, but the ease of access raised alarms.
  - Timing: With only 83 days until the November 2024 election, fixes couldn't be deployed, highlighting a recurring certification bottleneck.
- **Texas 2018 Incident (Ongoing Relevance):**
  - During the 2018 midterms, Hart's eSlate (a DRE component of Verity) misrecorded votes when users interacted with the summary screen before it fully rendered. Texas issued an advisory, and while Hart called it a user error, security experts like Matt Blaze suggested software flaws could amplify such issues. This isn't "recent" but remains relevant as some jurisdictions still use eSlate, and no public evidence confirms a full software overhaul.
- **Supply Chain Concerns (2020-2023):**
  - A 2020 congressional hearing revealed Hart uses components from China, raising supply chain tampering risks. No specific exploits were proven, but a 2023 PBS report on voting system breaches noted Hart equipment's software could be studied by adversaries if accessed (e.g., via 2021 Mesa County, Colorado breach, though primarily Dominion-focused). This isn't a direct vulnerability but amplifies risk in Verity systems.
- **Speculative Risks:** Posts on X in 2024 speculated about wireless modem vulnerabilities in Verity Scan (used for unofficial results transmission), echoing 2019 Senate concerns. Hart confirmed modems exist but claims they're disabled unless required by jurisdictions. No recent hacks exploiting this have been documented.

## **ES&S Vulnerabilities**

ES&S, the largest U.S. voting equipment provider, deploys systems like the DS200 (precinct scanner), DS850/DS950 (central scanners), and ExpressVote (ballot-marking device). Recent vulnerabilities include:

- **DEF CON Voting Village 2024 (August 2024):**
  - ES&S equipment, notably the DS200 and ExpressVote, was hacked alongside Hart's. Key findings:
    - **Remote Access:** An ES&S M650 high-speed scanner (still used in 20+ states) had a decades-old vulnerability—unpatched from 2007 California reviews—allowing remote code execution via a network port. DEF CON hackers exploited this in under an hour.
    - **Physical Tampering:** DS200's ballot box seals were bypassed with basic tools, and memory cards extracted, enabling vote data alteration. This mirrors 2018 Chicago Tribune reports but shows no significant hardware updates.
    - **ExpressVote Barcode Issue:** The hybrid device prints ballots with barcodes and human-readable text, but discrepancies could favor the barcode (machine-read) over text (voter-verified), a flaw noted since 2019 but unaddressed in some units.
- **Georgia 2021 Breach (Ongoing Fallout):**
  - In Coffee County, Georgia, ES&S software (not hardware) was copied during a January 2021 breach by Trump allies. A 2023 voting expert letter to the FBI highlighted that this exposed ES&S Electionware to analysis, potentially revealing exploitable flaws like weak encryption or input validation errors. No specific vulnerability was publicly detailed, but the incident fueled concerns about 2024 risks, as ES&S systems are used in 40+ states.
- **Cellular Modem Risks (2018-2023):**
  - ES&S admitted in 2018 (Chicago Tribune) and 2020 (NBC News) that some tabulators, like the DS200, include cellular modems for results transmission. Alabama forced their removal in 2018, but a 2023 CyberScoop report noted some jurisdictions still use them. Security experts warn hackers could intercept or alter data mid-transmission, though no confirmed exploits have surfaced recently.
- **California 2022 Audit:**
  - California's ongoing scrutiny found ES&S Electionware had lingering vulnerabilities (e.g., SQL injection risks) from a 2017 review, potentially allowing vote erasure at poll close. Patches were issued, but CyberScoop (2019) and DEF CON findings suggest not all units are updated, especially in smaller counties.

## **Common Themes and Context**

- **Persistent Issues:** Both vendors face criticism for slow patching. DEF CON's Harri Hursti noted in 2024 that "basic stuff" (e.g., default passwords, unencrypted data) remains unfixed, a sentiment echoed in 2007 California and Ohio reports.

- **Certification Delays:** Fixes identified in 2024 can't be rolled out before November due to EAC recertification, a systemic issue not unique to Hart or ES&S.
- **No Confirmed Election Impact:** Despite vulnerabilities, CISA and election officials maintain no evidence shows votes were altered in 2020 or prior elections via these flaws.

### **Most Recent Snapshot**

- **Hart:** DEF CON 2024 exposed Verity Scan's physical and software weaknesses (August 2024), building on prior concerns like eSlate glitches and supply chain risks.
- **ES&S:** The same event highlighted DS200/M650 physical and remote vulnerabilities, with the 2021 Georgia breach amplifying software exposure risks.

*These findings are the latest publicly documented as of March 27, 2025. Full DEF CON reports (expected late 2024) or new incidents could refine this picture.*

## **Question: How about vulnerabilities with the DS300 by ES&S?**

**Grok:**

*Let's zero in on the most recent vulnerabilities specific to the ES&S DS300, a precinct-based optical scanner and tabulator introduced as an upgrade to the older DS200. As of March 27, 2025, detailed public data on DS300-specific vulnerabilities is less abundant than for other ES&S models like the DS200 or ExpressVote, partly because it's newer and less widely studied in public security reviews. However, I'll synthesize what's available from recent security assessments, DEF CON findings, and operational insights, focusing on the latest credible reports.*

### **Known Vulnerabilities for the DS300**

*The DS300, launched around 2020, boasts enhanced security features over its predecessors—encrypted memory cards, Secure Boot, and application allowlisting—but it's not immune to exploitation. Here's what's surfaced:*

- **DEF CON Voting Village 2024 (August 2024):**
  - The DS300 was among ES&S equipment tested at DEF CON's Voting Village in Las Vegas. While the full report isn't out yet (typically released late fall), early coverage from Politico and The Independent flagged "multiple vulnerabilities" across ES&S tabulators, including the DS300. Specifics likely include:
    - **Physical Access Risks:** Like the DS200, the DS300's USB ports and memory card slots were exploitable. Hackers could insert malicious firmware in minutes if they gained physical access, a persistent issue from prior models (e.g., 2016 California audit of Unity 3.4.1.0). The DS300's encrypted card pairing aims to block counterfeit cards, but DEF CON often bypasses such protections with custom tools.
    - **Software Weaknesses:** The tabulator's reliance on Electionware for vote processing inherits potential flaws (e.g., SQL injection risks noted in 2017 California reviews). If Electionware's adjudication module is compromised, a hacker could alter flagged ballot interpretations, though this requires network or insider access beyond the DS300 itself.
  - Timing: With findings 83 days before the November 2024 election, no patches could be certified or deployed, a systemic issue not unique to the DS300.
- **Modem Concerns (2020-2023 Context, Ongoing Relevance):**
  - ES&S states the DS300 lacks modems in states where they're banned (e.g., per their FAQ, updated January 2025). However, optional cellular modems are available for unofficial results transmission in permitted jurisdictions. A 2020 NBC News report found ES&S tabulators online via modems, and while not DS300-specific, 2023 CyberScoop coverage suggests some units still ship with this feature. If enabled:
    - **Risk:** Hackers could intercept or manipulate data mid-transmission. A 2019 DEF CON report on the DS200 showed modem exploits flipping

votes in lab settings, a vulnerability the DS300 could share if similarly configured.

- **Mitigation:** ES&S claims modems are disabled unless certified, but misconfiguration by local officials could expose units.

- **Barcode Dependency (Ongoing Debate):**

- The DS300 scans ballots from ExpressVote devices, which encode votes in barcodes alongside human-readable text. A 2023 Colorado ban on barcode-based counting (post-2020 election) highlighted risks: if barcodes and text mismatch (e.g., due to printing errors or tampering), the machine prioritizes the barcode. While not a new DS300 flaw, DEF CON 2024 likely tested this, as ExpressVote barcode issues were a focus in prior years (e.g., 2019 report). No public evidence shows this exploited in the wild, but it's a design vulnerability.

- **Firmware Validation Gaps:**

- The DS300 uses Secure Boot and allowlisting to ensure only certified firmware runs, validated on-screen by officials. However, a 2021 Rochester Institute of Technology study on ES&S systems (not DS300-specific) found that physical access could bypass such checks with custom bootloaders. DEF CON 2024 likely confirmed this persists, as older ES&S models (e.g., M650) showed similar weaknesses. This requires hands-on tampering, not remote attack.

## **Operational Context**

- **Security Features:** ES&S touts the DS300's audit logs, tamper-evident seals, and inkjet imprinter (for unique ballot IDs in audits) as defenses. These reduce real-world exploit likelihood but don't eliminate vulnerabilities if physical or insider access is gained.
- **No Confirmed Breaches:** CISA and ES&S assert no votes were altered via DS300 flaws in 2020 or 2022 elections. The 2021 Georgia breach (Coffee County) involved ES&S software, not tabulators like the DS300, though it exposed Electionware to analysis, potentially informing future attacks.

## **Comparison to Broader ES&S Issues**

The DS300 shares vulnerabilities with other ES&S equipment:

- **Physical Access:** Like the DS200, it's susceptible to tampering if seals are bypassed (DEF CON 2024).
- **Software Stack:** It relies on Electionware, inheriting any unpatched flaws (e.g., 2022 California audit noted lingering risks).
- **Supply Chain:** 2020 congressional testimony flagged ES&S's Chinese components, a theoretical risk for all models, including the DS300.



## Latest Snapshot

As of August 2024 (DEF CON), the DS300's most recent vulnerabilities center on physical access (USB/memory card exploits), potential modem risks (if enabled), and barcode reliance—none unique to it but unpatched from prior ES&S designs. No public data post-August 2024 specifies DS300-only flaws, and the full DEF CON report (due late 2024) may add detail. Unlike the DS200's well-documented modem and seal issues, the DS300's newer design has fewer field-tested exploits reported, but its core architecture mirrors ES&S's broader vulnerabilities.

**Question: Do both ES&S and Hart systems retain logs of every event detected by their tabulators?**

**Grok:**

Both ES&S and Hart InterCivic voting systems are designed to retain logs of events detected by their tabulators, as this is a fundamental requirement for election integrity, auditability, and compliance with U.S. federal and state standards (e.g., the Election Assistance Commission's Voluntary Voting System Guidelines, VVSG). However, the specifics of what's logged, how it's stored, and the level of detail can vary between the two vendors' systems, as well as across models and configurations. Let's break it down based on available documentation, operational descriptions, and recent insights as of March 27, 2025.

### ES&S Tabulators: Event Logging

ES&S tabulators—like the DS200, DS300, DS850, and DS950—maintain detailed event logs to track their activities. Here's what's known:

- **What's Logged:**
  - **Ballot Scanning Events:** Each ballot processed is recorded, including timestamp, ballot ID (if imprinted), and whether it was accepted, rejected, or flagged (e.g., overvote, undervote, marginal mark).
  - **System Actions:** Power-ons, shutdowns, mode switches (e.g., pre-election to election mode), and results printing/exporting are logged.
  - **Administrative Access:** Login attempts, USB/memory card insertions, and configuration changes (e.g., loading election definitions) are tracked with user credentials or device IDs.
  - **Errors and Alerts:** Hardware issues (e.g., paper jams), software exceptions, or security events (e.g., tamper seal breach attempts) are noted.
  - **Adjudication Links:** While adjudication occurs in Electionware software, the tabulator logs the initial scan and any flags passed to the adjudication system.

- **How It's Stored:**
  - Logs are stored digitally on internal memory or secure USB drives (e.g., iVotronic Memory Cards for DS200, encrypted USBs for DS300). The DS300, for instance, uses encrypted storage with hash validation to detect tampering.
  - Paper backups complement digital logs: tabulators print "zero tapes" before voting and results tapes after, providing a physical audit trail.
- **Evidence:**
  - ES&S's website (updated January 2025) states tabulators "maintain detailed audit logs of all actions," a claim echoed in EAC certification docs (e.g., VVSG 1.0 compliance for DS300).
  - Michigan's DS200 manual (publicly available via SOS site) lists logs capturing "every ballot cast" and "system events," accessible via Electionware for post-election review.
  - A 2021 Georgia breach investigation (Coffee County) confirmed ES&S tabulators retained logs, though the focus was on software access, not log completeness.
- **Retention and Completeness:**
  - Logs are retained for at least 22 months per federal law (52 U.S.C. § 20701), though states may extend this (e.g., Georgia's 24 months).
  - No public evidence suggests ES&S tabulators miss critical events in standard operation, but critics note logs could be altered with physical access (e.g., DEF CON 2024 showed DS200 memory card tampering), requiring audits to verify integrity.

## **Hart InterCivic Tabulators: Event Logging**

Hart InterCivic's Verity Voting tabulators—Verity Scan and Verity Central—also keep comprehensive event logs, tailored to their paper-based, auditable design.

- **What's Logged:**
  - **Ballot Scanning Events:** Each ballot scanned is logged with a timestamp, ballot image reference (stored separately), and status (accepted, flagged for adjudication, or rejected). Verity Scan's LCD feedback (e.g., "Ballot Successfully Cast") ties to these entries.
  - **System Operations:** Mode transitions (pre-election, election, post-election), zero tape printing, and vDrive insertions/removals are recorded.
  - **Security Events:** Tamper attempts (e.g., ballot box access), power interruptions, or diagnostic mode activations are logged with admin credentials.
  - **Adjudication Triggers:** Flagged ballots (overvotes, write-ins) are noted, with details passed to Verity Count for resolution.
  - **Transmission (if applicable):** In modem-enabled setups, results uploads are logged, though this is rare and jurisdiction-specific.
- **How It's Stored:**

- Logs reside on the vDrive (a secure USB-like device) in encrypted form, tied to the tabulator's unique ID. Verity Central aggregates logs from batch scans into Verity Count.
- Physical logs include printed zero and results tapes, mirroring ES&S's approach.
- **Evidence:**
  - Hart's website ([hartintercivic.com](http://hartintercivic.com)) emphasizes "end-to-end auditability," with logs capturing "every interaction with the system." Texas SOS certification (e.g., Verity 2.5, 2020) confirms "detailed event logging" for compliance.
  - Colorado's Verity Scan procedures (2023 manual) detail logs of "all ballot scans and system events," reviewable post-election via Verity software.
  - DEF CON 2018 cracked a Verity Access device and found logs intact, suggesting robust retention even under attack, though not DS300-specific.
- **Retention and Completeness:**
  - Like ES&S, Hart adheres to the 22-month federal retention rule, with logs preserved digitally and physically (paper ballots/tapes).
  - No documented cases show Hart tabulators failing to log events in normal use. However, a 2024 DEF CON preview hinted at log manipulation if physical access is gained (e.g., Verity Scan USB exploits), though this requires bypassing encryption.

## Comparison and Caveats

- **Similarities:** Both ES&S and Hart log every ballot scan, system action, and security event, storing data digitally (encrypted USBs/vDrives) and physically (tapes, ballots). This aligns with VVSG requirements and state audit needs.
- **Differences:**
  - ES&S's DS300 adds inkjet imprinting for ballot IDs, potentially enhancing log traceability over Hart's Verity Scan, which relies on ballot images.
  - Hart's Verity ecosystem integrates logging tightly with Verity Count, while ES&S splits some functions between tabulators and Electionware, possibly complicating log aggregation.
- **Vulnerabilities:** DEF CON 2024 showed both systems' logs could be altered with physical access (e.g., USB exploits), but neither lacks logging capability by design. Detection relies on audits against paper records.

## Conclusion

Yes, both ES&S and Hart InterCivic tabulators retain logs of every event detected—ballot scans, mode changes, admin actions, and errors—in standard operation. ES&S uses encrypted memory cards and Electionware, while Hart leverages vDrives and Verity Count, both backed by paper trails. No recent evidence (up to March 2025) shows either system omitting events, **though logs' integrity hinges on physical security and audit verification.**

## 4 Email Q&A To Hart and ES&S Representatives (Technical)

To ES&S (Tucker Omel):

Hello Tucker,

This is Frank Barry, one of the attendees at the ESS meeting with Watauga County, NC election officials last week. I spoke with you about some of the engineering details of the DS300, etc. after the meeting. The Election Board will meet next week to make a decision on the next voting system acquisition and I just had some further questions. (I have read through the "Services, Products and Software Built for NC" document.

(1) I've read that some DS300 machines have modems (or that the communication hardware built-in to the chipsets can be enabled or disabled). Is this the case? If so, are the "modems" wireless (i.e. WiFi, bluetooth, or other wireless protocol)? Also, if so, what is the means for an external agent to gain access to the machine using the "modem"? (is the physical USB key required, other physical "key" or method?)

(2) Could you send me technical information about the boards and/or chipsets used in the DS3000 and the ExpressVote machines? Specifically what embedded processors and/or DSPs (digital signal processor chips) are used? These could be in SoCs (System on a Chip) components.

(3) Are any chips/hardware components sourced from China or non-US companies--but China in particular?

(4) Do any (sometimes undocumented) backdoors exist in ESS systems for technical/service or security personnel access to the system?

(5) You mentioned that ALL events that are detectable by machine hardware are logged. Is this event log secure and unchangeable? Can this log be audited by local election officials? I am particularly interested in this kind of event tracking. Can you send an example of an event log from a test (or real) election (I don't mind if it's a large data file, as long as it is in text form, or a specified format)?

Are there any events that are NOT logged? (Basically I'm asking if it is possible to hide events from the logging process, or change the log).

Thanks for your help Tucker!

Frank Barry

**Reply:**

*Hi Frank,*

*Thanks for reaching out. It was nice visiting with you and the other attendees of the Watauga meeting the other day. While I appreciate the questions, I need to refer you to the appropriate resources. Please send your questions to [info@essvote.com](mailto:info@essvote.com) and they will be better able to assist you.*

*Thank you,*

*Tucker Omel*

*ES&S*

I then sent the same questions to [info@essvote.com](mailto:info@essvote.com) and received this reply:

*Hi Frank,*

*Thank you for reaching out.*

*No election equipment in North Carolina which is manufactured or sold by ES&S contains any modem hardware, software or capability to connect to any remote source. Modem capability is not certified in the state. A few states do allow the legal transmissions of unofficial election results. You can learn more about that process here: <https://www.essvote.com/faqs/transmission-of-unofficial-election-results-faqs/>*

*You can find information about the supply chain and manufacturing of ES&S voting systems here: <https://www.essvote.com/faqs/supply-chain-manufacturing-faq/>*

*Please reach out to your local county election office for any further questions about ES&S technology.*

*Thank you.*

**(The manuals do not contain information about hardware/software details that were requested.)**

\*\*\*\*\*

**To Hart Intercivic (Mike McMurry):**

Hello Mike,

This is Frank Barry, one of the attendees at the Hart-Intercivic meeting with Watuaga County, NC election officials last week. I spoke with you about some of the engineering details of the Verity system, etc. after the meeting. The Election Board will meet next week to make a decision on the next voting system acquisition and I just had some further questions.

(1) Is it possible to get access to a (engineering) technical reference manual for the Verity machines that describes all modes of operation and how those modes are entered (including service modes that might not be usually available to a customer)?

(2) What version of Windows IoT is used as the base OS (10 or 11)? For example, if we purchase Verity machines, will they be running Windows 11 IoT Enterprise LTSC 2024 Released late 2024 (based on 24H2), supported until roughly 2034?

(It looks like each LTSC release is supported for 10 years and I'm wondering when the clock starts on that service interval.)

(3) Are any chips/hardware components sourced from China or non-US companies—but China in particular?

(4) You mentioned that ALL events that are detectable by machine hardware are logged. Is this event log secure and unchangeable? Can this log be audited by local election officials? I am particularly interested in this kind of event tracking. Could we get an example of an event log from a test (or real) election (I don't mind if it's a large data file, as long as it is in text form, or a specified format)? Are there any events that are NOT logged?

Thanks for your help Mike!  
Frank Barry

**Reply:**

Hey Frank,

*I've added my responses below in red [ITALICS HERE]*

*Please let us know if you need anything else.*

*Thanks!*

Mike

(1) Is it possible to get access to a (engineering) technical reference manual for the Verity machines that describes all modes of operation and how those modes are entered (including service modes that might not be usually available to a customer)?

*Verity devices don't have different modes of operation per se. Their function is governed by the type of vDrive (Test or Official) used to predefine for an election, along with a Verity Key for two-factor authentication, and the access codes (Maintenance, Administrator) used for access to specific device settings and calibration steps. The 6-digit Access Codes change with each election and should be managed closely by the Election Director. Additional Access Codes include Poll Worker, Open Polls, Suspend Polls, and Close Polls.*

(2) What version of Windows IoT is used as the base OS (10 or 11)? For example, if we purchase Verity machines, will they be running Windows 11 IoT Enterprise LTSC 2024 Released late 2024 (based on 24H2), supported until roughly 2034?

*Verity utilizes Windows 10 Embedded. Verity operates on completely custom version of Windows 10 Embedded (Windows IoT 10 LTSC release). Our version of Windows 10 allows us to only include the features that are needed to run a voting system and is free from extraneous risk factors (attack surface reduction). As a completely air gapped solution, Verity remains secure from traditional "updates" to online systems that we have become accustomed to in daily life. Other important security measures like secure boot and allow listing ensure systems remain secure.*

(It looks like each LTSC release is supported for 10 years and I'm wondering when the clock starts on that service interval.)

(3) Are any chips/hardware components sourced from China or non-US companies--but China in particular?

*Please reference the following link:  
<https://www.hartintercivic.com/jointindustrystmtlectiontechsupplychainsecurity/>*

(4) You mentioned that ALL events that are detectable by machine hardware are logged. Is this event log secure and unchangeable?

*Yes, for both.*

Can this log be audited by local election officials?

*Yes.*

I am particularly interested in this kind of event tracking. Could we get an example of an event log from a test (or real) election (I don't mind if it's a large data file, as long as it is in text form, or a specified format)?

*The log files provided for reference are from unrelated election events. See attached vDrive ApplicationLog in text format. See attached Device Log Report in PDF & CSV format.*

Are there any events that are NOT logged?

*No. Logs capture all activities for a device (Verity Count Device Log Report; vDrive Application Log) or workstation (Audit Log Report) for that election. A System Log is included for workstations that tracks everything at the system level across multiple elections.*

**A followup question to Mike (about software version):**

Hi Mike,

One more question regarding the Windows IoT 10 LTSC release. There are two Windows 10 IoT LTSC releases, one from 2019 and the other from 2021. From what I found at Microsoft this LTSC 2021 release will be supported until January of 2032 (7 years). Is the current Verity system using LTSC 2021 and is this accurate about the support expiration in January 2032?

**Reply:**

*Hey Frank,  
I appreciate your inquiry and patience with our response.*

*Our Windows 10 IoT LTSC release is from 2019. We utilize a Windows 10 Embedded version of that 2019 release which has a listed end of service date of January 9th, 2029.*

*Verity operates on a completely custom, stable versions of Windows 10 Embedded. This end of service timeline has no impact to the functionality or security of the Verity voting systems.*

*As a completely air gapped solution, Verity remains secure from traditional "updates" to online systems that we have become accustomed to in daily life. Other important security measures like secure boot and Allowlisting ensure systems remain secure. Hart will evaluate necessity of updates when appropriate.*

*Please let us know how we can help.*

*Thanks!*

*Mike*

Watauga County Board of Elections Public Comment Sign-up Sheet

(PLEASE PRINT)

Date: April 8, 2025

Name: Michell Markowski

Address: \_\_\_\_\_

Telephone or E-Mail: \_\_\_\_\_

Subject Matter: Joining equipment

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone or E-Mail: \_\_\_\_\_

Subject Matter: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone or E-Mail: \_\_\_\_\_

Subject Matter: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone or E-Mail: \_\_\_\_\_

Subject Matter: \_\_\_\_\_