

Dr. Nichelle Williams
Director of Research
U.S. Election Assistance Commission

Dear Dr. Williams:

We write as members of the “State Audit Working Group (SAWG), a group of election integrity experts particularly concerned about election audits. The SAWG has been meeting regularly via teleconferences since 2008, and has worked on recommendations from time to time such as the Principles and Best Practices for Post-Election Tabulation Audits and the EAC’s Voluntary Voting System Guidelines.

We appreciate the opportunity to comment once again on the Election Administration Voting and Policy Survey Instruments. We thank you for incorporating a good number of our past suggestions.

Our group and, therefore, our comments focus on election security and accuracy issues, with an emphasis on post-election audits.

Information derived from the EAC survey responses continues to be helpful for policy decision makers and election officials, among others. The type of data collected should be responsive to the changing trends and responsibilities in election administration. Such changes (and pointers to our related suggestions) include:

- More voting by mail (Q19, Q38d)
- More Remote Accessible Vote-by-mail (RAVBM) (C1a, F9, Q15.5)
- State or future EAC certification of epoll books, RAVBM and ballot-on-demand printers. (F4, F9)

The data collected should also be responsive to continuing election security threats and the vulnerability of electronic ballot return (email, fax, or web-portal.) This survey should collect information about which states still allow electronic return of ballots and under what circumstances and for which voters. The surveys should also find out the number of these ballots - - ie the size of the attack surface. (B12.)

Post-election tabulation audits and other audits are critical for protecting the integrity of our elections. These surveys should collect data on the progress with which the states are implementing such audits. (Q36)

In the past, the surveys have collected the make and model of equipment, but that is not enough. The version needs to be collected also because two systems with the same make and model, but different versions, can have totally different failure modes and vulnerabilities. It is important to know which equipment is currently in the field in order to address any discovered malfunctions or vulnerabilities. (F5-9)

Our more detailed comments follow. Clarification of some of the questions should improve the quality and usefulness of the data collected. Suggestions for added words are **bolded**, and deleted words are ~~stricken out~~. *Explanations for our comments are in italic serif font.*

Sincerely,

Note: All affiliations are for reference only and do not constitute an endorsement

Luther Weeks, Moderator, State Audit Working Group, Connecticut

Paul Burke, <http://VoteWell.net>, retired from HUD where my work included analysis & questionnaire development for the American Housing Survey

John L. McCarthy, computer scientist (retired from Lawrence Berkeley National Laboratory)

Timothy White, Washington State elections watcher

Harvie Branscomb, electionquality.com; coloradansforvotingintegrity.org; two decades as credentialed election watcher and citizen lobbyist; advocate for maximum citizen access to election process

Celeste Landry, Member of NIST Voting Methods and Tabulation Working Group

SAWG Suggestions for EAC 2022 Election Administration Policy Survey

EAC should ask about use of remote accessible vote by mail systems as well as their testing and certification. More and more states are using these systems. Their accessibility, reliability and security are critical to the delivery of accurate and fair elections.

Q15.5. Does your state, or any jurisdiction in your state, use Remote Accessible Vote by Mail systems? (Also called Remote Ballot Marking: includes electronic delivery of ballot to voter. Voter may print blank ballot to mark by hand, or may mark onscreen.)

- Yes
- No

If Q15.5 = No, skip to Q16

If Q15.5 = Yes, proceed to Q15.5a

Q15.5a. Which of the following options best describes your state's policy on Remote Accessible Vote by Mail (RAVBM) testing and certification (whether these allow return by mail or online)?

- RAVBM system testing and certification are required by statute
- RAVBM system testing and certification are required by formal administrative rule or guidance
- Our state does not require any type of RAVBM system testing and certification prior to remote voting systems' approval for purchase
- No provision for remote voting using electronic delivery or return
- Q15.5a Comments:

Q15.6. Do staff have individual login credentials on the Election Management system, so actions can be logged by individual, or do they share a login (like "admin")?

- Individual login ids
- Few shared ids
- One shared id for all managers
- Only one person logs in
- Other _____

Q15.7 Does the Election Management System require multi-factor authentication?

- Yes, all staff
- Yes, some staff

No

Q15.8. Do different users have different levels of permissions and access on the EMS?

Yes

No

There is only one user

Mail Voting

Q19c. What dates and times may voters use drop boxes to return their ballots?

First day drop boxes are available: ___/___/_____

(MM/DD/YYYY) Final day drop boxes are available:___/_____/

_____ (MM/DD/YYYY) Hours:

- All** Drop boxes are available to voters around the clock
- Only some drop boxes are available to voters around the clock**
- Drop boxes are available only during specific hours
- Other (please describe): _____

Q19c Comments:

Q19d. What security measures are implemented for drop boxes? (Select all that apply.)

- Election workers or poll workers must monitor **all the** the drop boxes **in person**
- Video cameras must monitor **all the** the drop boxes
- Representatives of both major political parties must be present when election workers remove ballots from drop boxes
- Other (please describe): _____

Election **Results Reporting**, Certification, Recounts, and Audits

Reporting results by precinct, or other granular reporting, is key for error detection and can be helpful for efficient auditing.

34.5 Do your offices report results by precinct for (mark all that apply)

- Election-day in-person voting
- Early in-person voting
- Mail voting
- Total by precinct, without the above categories
- Nothing by precinct

34.6 How are your jurisdiction's election results presented? Check all that apply:

- On the web
- Excel
- CSV
- PDF (cannot search inside file)
- PDF (can search inside file)
- HTML
- ASCII Text
- Graphic files (cannot search inside file)
- Other _____

Recounts

Q35A. Which methods are allowed for recounts?

- Machine rescanning of paper ballots
- Human interpretation of paper ballots
- Other (please specify.)

Audits

Q36. A **post-election** tabulation audit involves ~~hand counting~~ **checking** a sample of votes on paper records, then comparing those **counts** to the corresponding **electronic records** ~~vote totals~~ originally reported as a check on the accuracy of election results and to detect discrepancies ~~using accurate hand counts of the paper records as the benchmark.~~ **Are post-election** tabulation audits ~~be~~ required in your state for the November 2022 election? (Select all that apply)

- Yes, **post-election** tabulation audits are required by statute
- Yes, **post-election** tabulation audits are required by formal administrative rule or guidance
- Tabulation audits are required only when certain officials request them.**
- No, our state does not require any type of **post-election** tabulation audit
- Other (please describe): _____

Q36a. What type of post-election tabulation audit will be required in your state for the November 2022 election? (Select all that apply)

- Traditional manual tabulation audit: **paper ballots manual records** from a fixed **number or** percentage of randomly selected **batches or** voting districts or voting machines **are manually counted and the tallies** are compared to the results produced by the voting system
- Traditional machine tabulation audit: paper ballots from a fixed number or percentage of randomly selected batches or voting districts or voting machines are machine-counted again and the tallies are compared to the results produced by the voting system**
- Risk limiting tabulation audit: a procedure for checking a sample of ballots (or voter verifiable records) that provides a pre-specified statistical chance of correcting the reported outcome of an election if the reported outcome is wrong (that is, if a full hand-count would reveal an outcome different from the reported outcome)
- Other (please describe): _____

Q37. For the 2022 general election, will your state conduct any of the following auditing activities **state-wide**, either before or after the election? (Select all that apply.)

- Accessibility audit: an assessment of whether legal procedures were followed to ensure the election's accessibility to voters with disabilities
- Ballot design audit: an assessment of the usability of the ballot(s) in an election **for accurate voting**, often focusing particularly on voters with disabilities or voters who use ballots in languages other than English.
- Compliance audit or procedural audit: an audit that examines whether the established processes and procedures were followed throughout the election
- Eligibility audit- a process to verify that ballots counted are legally cast.**
- Ballot reconciliation audit: a comparison of the number of voters who signed in or whose envelopes were checked in, to the number of physical ballots on hand, and the published election results.**
- Legal audit: an assessment of whether election practices comply with all applicable federal, state, and local laws
- Logic and accuracy testing: a test to examine whether voting machines are tabulating votes correctly, usually by creating a test deck of ballots and running them through the machines
- Other (please describe): _____

Voter Identification

Q38d. What authentication is required for remote/mail voting? (mark all that apply)

	Application for mail ballot	Returned ballot envelope or affidavit	Application for use of Remote Accessible Vote by Mail	Online return of remotely marked ballot	Cure process
Not applicable (e.g. no application needed, or no cure process)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No authentication required	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Name must appear on voter registration list	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identifying info must match voter registration list	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Number sent with outgoing ballot must appear on returned ballot envelope	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Signature required, not routinely compared to reference signature(s)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Signature comparison to stored reference signature(s)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Witness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Copy of ID	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information from ID	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In person appearance or live contact (phone, video)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Authentication is accepted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

by internet (incl. email, fax, text, or web portal)					
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Comments

EAC 2022 Election Administration and Voting Survey (EAVS)

UOCAVA Ballots Returned: Questions B9–B13

B9–B12. Transmitted Ballots Returned by Voters: Postal Mail, Email, Other

This section has issues that might make the data received unreliable:

1. *Although there is a clear federal definition for which voters are UOCAVA, some states treat additional “service voters” (e.g. National Guard, former UOCAVA...) with UOCAVA carve-outs such as 45 day early ballot delivery and electronic ballot return. In EAVS surveys, the data for “service voters” may get intertwined with the data from UOCAVA. The survey instrument can reduce this potential problem by providing warnings and/or by separately collecting data for these “service voters.” You may wish to add specific wording for this concern.*
2. *We have a concern about the reporting of ballots transmitted to the voters and ballots returned. Our concern applies to UOCAVA and non-UOCAVA voters. Should the number being reported be the total number of ballots or the total number of voters receiving or returning the ballots? Shouldn't only one ballot for each voter be reported?*
 - a. *If a voter returns 5 ballots, only one is counted in the election, and only one should be counted in these statistics. Similarly, in some states an electronic ballot may only be accepted if it is followed by a paper ballot, but both ballots should not be reported.*
 - b. *We have provided some suggested language, but this issue deserves further analysis.*
 - c. *Depending how the states collect the data, it might be best to ask for the number of voters as well as the number of ballots, and we have provided an extra column in C1 to support this.*
 - d. *The instructions should be clear so that the reporting is consistent and meaningful.*
 - e. *See B9, UOCAVA voters who returned ballots, and C1, Total mail ballots transmitted, for suggestions.*
3. *Since electronic ballot return (email, fax, web-portal) is generally not secure, it's important to understand the number of ballots returned that way (i.e. the size of the attack surface.)*

4. *Since ballots delivered electronically have been returned at a much lower rate than paper ballots, for policy decisions, it's important to compare the return rates for the different modes of transmission.*
5. *There is no reason to separate email from fax return, since FVAP provides a service to convert one to the other.*

<https://www.fvap.gov/info/news/2017/12/5/fvap-announces-changes-to-ets-system-for-2018>

	Type of UOCAVA Voter		
	a. Total	b. Uniformed Services voters (members of the Uniformed Services and their eligible dependents)- domestic or foreign	c. Non-military /civilian overseas voters
<p>B9. TOTAL absentee ballots returned:</p> <p>Of all UOCAVA ballots transmitted to voters as reported in B5a, report the total number of voters who returned ballots that were returned by voters to your office for the 2022 general election. Do not include FWABs in this number, or voters which don't meet Federal definition of UOCAVA, but which state treats as UOCAVA</p>			
<p>B9.5 Voters which don't meet Federal definition of UOCAVA, but which state treats as UOCAVA. Do not include these in B9 or other rows</p>			
<p>B10. Postal mail:</p> <p>Of all UOCAVA ballots returned (B9a), report the total number that were returned by postal mail. This includes all ballots that your office received via the USPS or private courier shipping services (e.g., FedEx, UPS, DHL).</p>			
<p>B11. Email or Fax:</p> <p>Of all UOCAVA ballots returned (B9a), report the total number that were returned by email or fax. This includes all ballots that you received via email attachment from a voter.</p>			

<p>B12. Other <u>electronic methods / web portal mode:</u></p> <p>Of all UOCAVA ballots returned (B9a), report the total number that were returned through other electronic methods. This includes ballots received through all other modes, such as, fax, online systems, etc.</p>			
<p>B12a How many voters who were electronically transmitted a ballot by email, fax or web portal (B7&B8) returned the ballot?</p>			
<p>B12b. How many voters who were transmitted a ballot by web portal (part of B8) marked the returned ballot by hand rather than by machine?</p>			
<p>B9–B12 Comments:</p>			

Section C: Mail Voting

1. *The explanation before the UOCAVA Section B about counting ballots vs. voters applies to this section as well.*
2. *As some states are transmitting more ballots to voters electronically, and as policy makers are considering EAC certification and test programs for Remote Accessibility Vote By Mail Systems, the EAC should be collecting relevant data. More specifically, the survey should ask how many voters are transmitted to electronically, and how many use electronic return methods?*
3. *In C9a, is the term “domestic civilian mail ballots” defined? Would it be better to say “non-UOCAVA”? It needs explanation.*

Section C asks about mail voting, in which a ballot is mailed to a voter (or issued over the counter at an election office or made available to the voter via a web portal or by fax) and the voter marks the ballot and returns it by mail, in a drop box, or in person at a polling place or election office. For purposes of EAVS, “mail voting” is synonymous with “absentee voting.” The EAVS no longer uses the term “absentee voting” in recognition of the fact that a majority of states no longer require a voter to be absent from their voting location in order to cast a ballot by mail.

This section of the EAVS asks for six types of data:

1. How many mail ballots were transmitted to voters in the 2022 general election?
2. How many mail ballots were transmitted to permanent mail voters in the 2022 general election?

3. How many mail ballot drop boxes were used in the 2022 general election, and how many mail ballots were returned via these drop boxes?
4. How many mail ballots were successfully cured by voters for the 2022 general election?
5. How many mail ballots were accepted and how many mail ballots were rejected in the 2022 general election?
6. For what reasons were mail ballots rejected in the 2022 general election?

In reporting data on mail voting, include duplicate ballot transmissions (such as when a voter misplaces their mail ballot and requests a replacement) and duplicate ballot returns (such as when a voter submits multiple mail ballots, even though only one ballot is ultimately counted). If your state cannot track duplicate ballot transmissions or returns, note that information in the survey comments.

Transmitted Mail Ballots: Questions C1–C2

Transmitted mail ballots are mail ballots that your office sent to voters, including ballots sent to voters via postal mail, email, fax, or other modes. Do not include ballots mailed to UOCAVA voters.

C1. Total Mail Ballots Transmitted

For question C1, report the total number of mail ballots transmitted to voters for the November 2022 general election. Include all mail ballots transmitted for this election, including duplicate transmissions. Next, divide the total number of mail ballots transmitted to voters (as reported in C1a) into the categories listed in C1b through C1f. Use C1g–C1i for any mail ballots that do not fit into the categories listed. The numbers entered in C1b through C1i should sum to the total provided in C1a.

The explanation above shows why we suggest adding the column for total voters

Category of Mail Ballots	Total Documents	Total Voters
<p>C1a. TOTAL mail ballots transmitted:</p> <p>This number should include all mail ballots transmitted for the 2022 general election, including spoiled or replaced ballots or duplicate transmissions. Do not include ballots transmitted to UOCAVA voters. (See B5) individuals who cast UOCAVA absentee ballots or individuals who used any form of in-person voting.</p>		
<p>C1ai How many mail ballots were transmitted electronically (by email, fax, web portal or other means)</p>		
<p>C1b. Returned by voters:</p> <p>Include ballots both counted and rejected and mail ballots that went through the cure process.</p>		

<p>C1c. <u>Returned as undeliverable:</u></p> <p>Report the total number of transmitted ballots returned to your office as undeliverable.</p>		
<p>C1d. <u>Surrendered, spoiled, or replaced ballots</u> (also referred to as “voided” ballots):</p> <p>Include mail ballots that voters surrendered at a polling place in order to vote in person, mail ballots that were incorrectly marked or impaired in some way, and mail ballots that were replaced with another ballot.</p>		
<p>C1e. <u>Mail voters who voted in person with a provisional ballot:</u></p> <p>Include mail ballots from voters who attempted to vote in person but did not have their mail ballot to surrender at the polls and were given a provisional ballot should be reported here.</p> <p>If your state cannot distinguish these ballots from spoiled mail ballots in C1d, please note this in the C1 Comments box.</p>		
<p>C1f. <u>Unreturned mail ballots</u> (neither returned undeliverable nor returned from voter, nor replaced by another ballot):</p> <p>Report the number of transmitted mail ballots that were not returned by voters or were not spoiled, returned undeliverable, or surrendered so the voter could vote in person.</p>		
<p>C1f1 <u>Unreturned ballots that were transmitted to voters by mail.</u></p>		
<p>C1f2 <u>Unreturned ballots that were transmitted to voters electronically (by email, fax or web portal).</u></p>		

C9. Number of Mail Ballots Rejected, by Reason Rejected

For question C9a, provide the total number of mail ballots returned by voters and rejected. Then, in questions C9b–C9r, divide the total as reported in C9a into the following categories indicating the reason why the mail ballots were rejected. Use options C9r–C9t for any ballots that cannot be placed in the categories given in C9b through C9q. The numbers reported in C9b through C9t should sum to the total number of ballots rejected reported in C9a.

Category of Mail Ballots	Total Documents	Total Voters
C9a. TOTAL number of domestic civilian mail ballots rejected		
C9b. Ballot not received on time/missed deadline		
C9c. No voter signature		
C9d. No witness signature		
C9e. Non-matching or incomplete signature		
C9ee. No envelope (e.g. dropped in drop box without envelope)		

C9f. Ballot returned in an unacceptable unofficial envelope		
C9g. Ballot missing from envelope		
C9h. Ballot not placed in a required secrecy envelope		
C9i. Multiple ballots returned in one envelope		
C9j. Envelope not sealed		
C9k. Returned ballot did not have required postmark		
C9l. No resident address on envelope		
C9m. Voter deceased		
C9n. Voter already cast another ballot that was accepted (by mail or in person)		
C9o. Voter did not provide required documentation (such as identification, affidavit, or statement) or documentation was incomplete		
C9p. Voter was not eligible to cast a ballot in the jurisdiction		
C9q. No ballot application on record		
C9r. Other: _____		
C9s. Other: _____		
C9t. Other: _____		
C9 Comments:		

Section D: In-Person Polling Operations

F1. Total Participation in the 2022 Election

For question F1, please provide the total number of voters who cast a ballot that was counted in the 2022 election, by mode of voting. While other items in the survey have reported some of this data, only voters whose ballots were counted should be reported in this set of questions.

SAWG made suggestions for the table below to:

- *improve the quality and consistency of the data collected by clarifying the appropriate “bucket” for mailed ballots dropped off at locations such as polling places.*
- *capture other important means of returning ballots that were omitted such as electronic return and ballots marked and accepted at satellite locations such as nursing homes, hospitals and voters’ homes. Collecting this data is*

important to make sure all the return numbers add up and for policy analysis.

Type of Participants	Total Voters
<p>F1a. <u>TOTAL number of voters who cast a ballot that was counted:</u> All voters who voted in the election, including all categories of voters listed below.</p>	
<p>F1b. <u>Voters who cast a ballot at a physical polling place or election office on Election Day, and the ballot did not receive any further eligibility review, and whose ballots were counted:</u> All voters who cast ballots in person on Election Day, not including provisional ballots or mail ballots dropped off at the polls in their envelopes for later eligibility review.</p>	
<p>F1c. <u>UOCAVA voters who cast a ballot via absentee or FWAB, and whose ballots were counted:</u> All voters who are covered by the Uniformed and Overseas Citizens Absentee Voting Act (UOCAVA) and who used either a transmitted absentee ballot or a Federal Write-in Absentee Ballot (FWAB).</p>	
<p>F1d. <u>Voters who cast a mail ballot, and whose ballots were counted:</u> All voters who voted using a mail ballot. This should <u>not</u> include voters whose jurisdictions conduct elections entirely by mail; those voters are reported in F1g. This includes voters who deposit mail ballots in a dropbox, at a polling location or at an election office.</p>	
<p>F1e. <u>Voters who cast a provisional ballot, and whose ballots were counted:</u> All voters who cast a provisional ballot that was counted, either partially or in full.</p>	
<p>F1f. <u>Voters whose eligibility was accepted and who cast ballots at an in-person early voting location, and whose ballots were counted:</u> All voters who participated in the election in person prior to Election Day. This includes in person early voting or in person absentee voting. This does not not include provisional ballots or mail ballots dropped off at the polls unless the eligibility check is done concurrently and the ballot is accepted.</p>	
<p>F1g. <u>Voters who cast a mail ballot in a jurisdiction that conducts elections entirely by mail, and whose ballots were counted:</u> All voters who cast ballots in a jurisdiction that uses an all-vote-by-mail system (i.e., sends a mail ballot to every registered voter). This should <u>not</u> include voters who used a mail ballot in jurisdictions that do not conduct elections entirely by mail; those voters are reported in F1d. This includes voters who deposit their mailed ballots in a dropbox, at a polling location or at an election office.</p>	
<p>F1gg. Voters who cast a vote by email, fax or web portal, whose ballots were counted.</p>	
<p>F1gh. Voters whose eligibility was accepted and who cast in-person ballots</p>	

under the administration of election officials at special location (election officials visit home, nursing home, hospital, etc.)	
F1h. Other: _____	
F1 Comments:	

SAWG suggests collecting information regarding how ballots have been marked. This information is important for security analysis and planning audits.

F1.5. Total Number of in-person ballots that were counted. Should equal F1b+F1e+F1f +F1gh	
F1.5a. In-person ballots marked by hand	
F1.5b. In-person ballots marked by machine (BMD)	
F1.5c. In person ballots recorded by DRE with VVPAT	
F1.5d. In-person ballots recorded by DRE without VVPAT	
Comments	

F3-F4. Use of Electronic and Paper Poll Books

Use of Poll Books	F3. Electronic Poll Books	F4. Paper Poll Books
a. Sign voters in	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
b. Update voter history	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
c. Look up polling places	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
d. Assist with same-day registration	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
e. Check voter's mail ballot status	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
f. Other: _____	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
g. Do you have backup paper poll books, even if they were not used?		<input type="radio"/> Yes <input type="radio"/> No
F3-F4 Comments:		

F5–F9. Voting Equipment Used

More and more states are using epoll books, remote ballot marking systems, and ballot-on-demand systems. These systems greatly affect the accessibility, security, capacity and reliability of election systems. Policy makers are considering EAC certification of such systems. The EAC survey should be collecting information on what is currently being used.

It is important to know the version of fielded equipment. Two voting systems with the same make and model numbers but different version numbers, may have totally different problems or vulnerabilities. For instance, one may have a wireless component, the other may not. Knowing the version number of fielded units is critical for properly fixing bugs and vulnerabilities.

For questions F5–F9, report the number and type of voting equipment used for each aspect of the election process in the November 2022 general election. Report the following information:

- Equipment type—please note whether your jurisdiction uses:
 - Direct-Recording Electronic (DRE), not equipped with a voter-verified paper audit trail (VVPAT)
 - Direct-Recording Electronic (DRE), equipped with a voter-verified paper audit trail (VVPAT)
 - Electronic system that produces a paper record but does not tabulate votes (often referred to as a “ballot marking device”)
 - Scanner (optical/digital) that tabulates paper records that voters mark by hand or via a ballot marking device
 - Hand-counted paper ballots (not optical/digital scan system)
 - **E-poll books**
 - **Remote Accessibility Vote By Mail, RAVBM**
 - **Ballot on demand printing**
- Make, model **and version** of the voting equipment used (e.g., the ES&S ExpressVote® or the Dominion ImageCast® Evolution/ICE). There is space provided to list up to three makes and models for each equipment type.
- The number of machines deployed: the number of these machines that were used to assist with voting during the November 2022 general election. Machines that were not deployed in a polling location or used to tabulate ballots should not be included in these questions.
- Equipment uses—indicate whether each type of equipment was used for:
 - In-precinct Election Day regular balloting
 - Special device accessible to voters with a disability
 - Provisional ballot voting
 - In-person early voting

o Mail ballot counting

Provide any comments about the nuances of your jurisdiction's use of voting equipment, or record information about additional voting equipment in use, in the F5–F9 Comments box.

	a. In Use in Your Jurisdiction	b. Make/Model /version	c. Number Deployed	d. Equipment Use (Select All that Apply)
F5. DRE machines w/o VVPAT	Yes No			<input type="checkbox"/> In-precinct Election Day regular balloting <input type="checkbox"/> Special device accessible to voters with a disability <input type="checkbox"/> Provisional ballot voting <input type="checkbox"/> In-person early voting
F6. DRE machines w/ VVPAT	Yes No			<input type="checkbox"/> In-precinct Election Day regular balloting <input type="checkbox"/> Special device accessible to voters with a disability <input type="checkbox"/> Provisional ballot voting <input type="checkbox"/> In-person early voting
F7. Ballot marking device	Yes No			<input type="checkbox"/> In-precinct Election Day regular balloting <input type="checkbox"/> Special device accessible to voters with a disability <input type="checkbox"/> Provisional ballot voting <input type="checkbox"/> In-person early voting <input type="checkbox"/> Mail ballot counting
Central scanner	Yes No			<input type="checkbox"/> in-person ballots brought to central location <input type="checkbox"/> Mail ballot counting
F8. Polling place Scanner	Yes No			<input type="checkbox"/> In-precinct Election Day regular balloting <input type="checkbox"/> Special device accessible to voters with a disability <input type="checkbox"/> Provisional ballot voting <input type="checkbox"/> In-person early voting <input type="checkbox"/> Mail ballot counting

	a. In Use in Your Jurisdiction	b. Make/Model/Version	c. Number Deployed	d. Equipment Use (Select All that Apply)
F9. No equipment (hand count)	Yes No			<input type="checkbox"/> In-precinct Election Day regular balloting <input type="checkbox"/> Special device accessible to voters with a disability <input type="checkbox"/> Provisional ballot voting <input type="checkbox"/> In-person early voting <input type="checkbox"/> Mail ballot counting
F9a E-poll books	Yes No			<input type="checkbox"/> In-person, In-precinct <input type="checkbox"/> In-person, voting centers
F9c On demand ballot printing systems	Yes No			<input type="checkbox"/> In-person, In-precinct Election Day regular balloting <input type="checkbox"/> In-person, Voting Center
Remote Accessible Vote by Mail systems	Yes No			
Signature verification equipment (including dedicated envelope scanners, onscreen signature verification, and automatic verification)	Yes No			
F5-F9 Comments				