

# Post-Election Audits

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## Introduction

A post-election audit checks that the equipment and procedures used to count votes during an election worked properly, and that the election yielded the correct outcome.

In states that conduct post-election audits (see table below for more details) it is usually a statutory requirement. Legislatures can decide whether or not to require post-election audits in their states.

While the phrase "post-election audits" can be used to mean a variety of election validation efforts, as a term of art it refers to checking paper ballots or records against the results produced by the voting system to ensure accuracy. 34 states + DC currently have a post-election audit as defined here. Paper records used in an audit may include voter-marked paper ballots, voter-verified paper audit trails produced by direct-recording electronic voting machines (DREs) or paper ballot records produced by ballot-marking devices. Typically only a sample of the paper records are examined, so in effect a post-election audit is a partial recount of results to verify that the voting system is accurately recording and counting votes.

Although post-election audits can lead to a full recount if errors are detected, they differ from a recount in that they are conducted regardless of the margins of victory. Recounts are most often triggered or requested if there is a tight margin of victory. See NCSL's webpage on recounts for more information.

Below, this webpage provides a detailed table on states with post-election audits and the variations within them.



## Why Do a Post-Election Audit?

If an audit process is in place, it can inform election officials of any bugs or errors in the system, and can act as a deterrent against fraud. Proponents of post-election audits argue that they can also help avoid a full recount by revealing when a recount is necessary to verify the correct election outcome. And, ultimately, a robust post-election audit can increase confidence in the results of an election.

Post-election audits can be time-consuming for election administrators, and most post-election audits contain an element of hand counting paper records, which is an error-prone process. Even with good procedures, people physically looking at votes on a piece of paper are less reliable at tabulating than a machine, although humans are better at discerning voter intent.

## Issues Legislators Might Need to Address

- Are audits required? Are they voluntary or only conducted under certain circumstances?
- What type of equipment is used in the state? A paper trail is needed to conduct a post-election audit, and some older systems do not contain this paper trail. Most newer voting systems, however, have the capacity to undertake a post-election audit and produce the necessary paper trail.
- How are the audited ballots, precincts, machines or districts selected?
- How many races will the audit include?
- Who determines what contests are selected to be audited? What are the factors in determining the selection of audited contests (for example, the closeness of the reported outcome, the geographical scope of the contests or any cause for concern regarding the accuracy of the reported outcome)? When is this decided? Is it before the election, after unofficial results are available, or after the election has been certified?
- How robust is the audit? Does a risk-limiting audit make sense? (See below for details on risk-limiting audits)
- Which categories of ballots are audited? Does the audit include absentee ballots, early voting ballots, ballots sent from citizens overseas, and provisional ballots, or just votes cast in person on Election Day?
- When is the audit conducted? Some states call for post-election audits after election results are finalized, with the intent of providing information to improve future elections. Other states conduct an audit before results are finalized, which may allow for the resolution of any discrepancies.
- Does a requirement for post-election audits put an extra burden on election officials? Post-election audits can be labor and time-intensive. In the longer term, though, states may find cost savings if audits make expensive recounts less common. And, with time better procedures will develop.
- Who conducts the audit? Is it done by the states, local jurisdictions, or an independent audit board? Who provides the resources and staff for conducting the audit? Who participates and who can be present when the audit is conducted?
- Who conducts the audit? Is it done by the states, or the local jurisdictions? Who provides the resources and staff for conducting the audit?
- What happens if the audit shows a discrepancy? When is a full recount triggered?

## Types of Post-Election Audits

There are several variations of post-election audits used in states.

**Traditional Post-Election Audits:** Most audits look at a fixed percentage of voting districts or voting machines (see table below for details) and compare the paper record to the results produced by the voting system. Even in a landslide election, they will count the same number of ballots as they would in a nail-biter election.

- 30 states and DC require a traditional post-election audit: Alaska, Arizona, California (counties may elect to conduct a risk-limiting audit beginning in 2020), Connecticut, District of Columbia, Florida, Hawaii, Illinois, Iowa, Kansas, Kentucky, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, New Jersey (although the state currently does not have machines that produce a paper record and therefore cannot yet meet this requirement), New Mexico, New York, North Carolina, Ohio (risk-limiting audits are recommended but not required), Oregon, Pennsylvania, Tennessee, Texas, Utah, Vermont, Washington (counties have the option of conducting a risk-limiting audit), West Virginia and Wisconsin.

Traditional post-election audits are usually conducted manually by hand counting a portion of the paper records and comparing them to the electronic results produced by an electronic voting machine. However, some states have a process by which some or all of the audit can be conducted electronically. This may be done with the assistance of a computer or a tabulation device other than the one that was initially used to tabulate results. And, some traditional post-election audits use a "tiered" system, which means a different number of ballots are reviewed, depending on the margin of victory.

A case study of a traditional post-election audit, from West Virginia, is provided below, as well as a tiered post-election audit, from New Mexico, and a partially electronic post-election audit in Connecticut.

**Risk-Limiting Audits:** In recent years, researchers have developed statistically based audit techniques that cut down on the number of ballots to be audited, while also providing statistical confidence that the election result is correct. As defined in Washington, "A "risk-limiting audit" means an audit protocol that makes use of statistical principles and methods and is designed to limit the risk of certifying an incorrect election outcome." If the margin is larger, fewer ballots need to be counted. If the race is tighter, more ballots are audited.

- 4 states have a statutory requirement for a risk-limiting audit: Colorado, Nevada, Rhode Island, and Virginia. Ohio and Washington provide options for counties to run different types of audits, one of which being a risk-limiting audit. Beginning in 2020 California counties may conduct a risk-limiting audit in lieu of a traditional post-election audit. Details are provided in the table below.

A case study of a risk-limiting audit, from Colorado, is provided below.

## Other Post-Election Options

Some states have other variations, which do not fit the definition used here of a post-election audit, although these processes are valuable in terms of confirming a well-run election.

### Procedural Audits

States may have a process for ensuring that the correct process and procedures were followed during the course of the election. This is referred to as a “procedural audit” and may be conducted instead of or in addition to a post-election audit. Procedural audits vary in their scope and comprehensiveness, but almost always include a ballot accounting and reconciliation process. This isn’t a check that the software in the voting machine is working correctly, but rather a check on the human processes.

The first step in accounting for and reconciling ballots occurs at the polling place, when poll workers may be required to fill out a ballot accounting log indicating the number of blank ballots received at the beginning of the day, or the “zero tape” from the voting machine from the beginning of the day that shows no ballots have yet been recorded. Later, the number of ballots voted during the day or the results tape from the voting machine, and any incidences that may have occurred throughout the day, are collected. (For example, if a voter signed in on the poll book but subsequently left without casting a vote, this would be recorded as an “incident”.) Election officials can then see if there are any discrepancies in the number of voters that signed in at a polling place and the number of votes that were cast. If there is a discrepancy, election officials can investigate it. Did all of the votes get uploaded correctly? Were votes from one machine mistakenly counted more than once? Were any voted ballots mistakenly not counted?

A procedural audit also may include a reconciliation of the provisional ballots, early ballots and absentee ballots, and a review of security and chain-of-custody procedures. Chapter V in the report, *Counting Votes 2012: A State by State Look at Election Preparedness*, contains details on state ballot accounting and reconciliation procedures.

For an example of a detailed procedural audit, see Michigan’s Post-Election Audit Manual, based on legislation passed in 2012, to require a thorough procedural audit at both the state and county levels that covers numerous pre-election, Election Day and post-Election Day tasks.

South Carolina runs a procedural audit to compare the tabulated results of the election with the raw data in the electronic audit files of each voting machine using a series of computer applications written to detect anomalies. See *Description of Election Audits in South Carolina*.

### Post-Election Audits Under Certain Circumstances

Some state laws do not require a post-election audit to be run after each and every election, but instead require them in certain circumstances. For example:

- Idaho conducts a post-election audit only when a recount is required (Idaho Code §34-2313).
- Indiana requires a procedural audit under some circumstances. If the total number of votes cast (on the electronic voting system and by absentee ballot) and the total number of voters in the poll book differ by a pre-defined "audit threshold," the county conducts an audit of that precinct. A county chairman for

a major political party may also request an audit for confirmation of votes cast (Indiana Code §3-12-3.5-8, §3-11-13-37 et seq.).

- Nebraska doesn't have a statutory requirement for post-election audits, but they may be conducted by the secretary of state's office.

### **Post-Election Logic and Accuracy Testing**

At least two states (North Dakota and Wyoming) conduct a repeat of the pre-election logic and accuracy test after the election to ensure that voting machines are still tabulating accurately. Before an election, election officials create a "test deck" of ballots (a stack of all ballots styles with different iterations of marked ballot selections) that are run through tabulators to ensure races are being accurately recorded and tabulated. In these states, the same test deck is run through the machines after the election, to once again test the accuracy of the machines.

