The Election Systems Used Across North Dakota

The Central Voter File (CVF) – Software created for administering elections in North Dakota

North Dakota (ND) is the only state without any form of voter registration. Not requiring voters to register before being allowed to vote—combined with requiring every individual to provide a valid form of ID (ND driver's license, ND nondriver ID, or ND tribal ID) that includes the individual's legal name, current residential address, and date of birth—gives North Dakotans the easiest access to the ballot over any other state and makes it the hardest state in which to cheat.

The CVF includes a record of everyone who has voted in at least one of the last two election cycles. The initial data for the CVF is populated with the names, addresses, and dates of birth of any ND resident with a driver's license or nondriver's ID from the ND Department of Transportation (DOT). The data in the CVF is continually updated with information received from DOT whenever a resident provides a new residential address after moving to a new residence in the state, from the courts for name changes, and from Vital Records upon the death of a resident.

The CVF is one module of the state's Election Management System (EMS) called ND VOting Information and Central Election Systems (ND VOICES). This EMS allows the Secretary of State and the state's 53 County Auditors to keep voter records current; build the ballots for upcoming elections; provide accessible data to voters at Vote.ND.Gov so each voter may know where to vote, what jurisdictions are associated with the voter's address, and a wealth of voting information; and post voting credit for voters after an election. All of this is available to election officials on a secure and private network behind firewalls, the access to which requires strong passphrases and multifactor authentication.

ND VOICES is continuously monitored for real-time intrusion attempts. This monitoring is not only done by the ND Information Technology department (NDIT), but it is also monitored by several federal security agencies because of the Department of Homeland Security Critical Infrastructure designation. This designation defines that election infrastructure must be as secure as our nation's power grid, water supplies, communications, etc. In all, there are 16 sectors that have been given this same designation. (See https://www.cisa.gov/critical-infrastructure-sectors.)

Voting System and Certification:

In 2019, the ND legislature passed Senate Bill 2002 (Senate 47-0 and House 84-6) authorizing funding for the Secretary of State's statewide voting system and electronic pollbook project.

This new voting system was acquired after a competitive bid process in 2019 and first used in the June 2020 election. The proposals were reviewed by County Auditors and election officials from four counties, two members of the Secretary of State's Elections Unit, and state agency representatives from the Office of Management and Budget (OMB), the Attorney General's office, and NDIT. An Executive Steering Committee, comprised of leaders from the Secretary of State, OMB, and NDIT, approved the recommendations and monitored the implementation.

For electronic pollbooks, which speed the check in of voters at polling places, the state selected KNOWiNK's PollPads.

For its new voting system, the state selected Election Systems & Software (ES&S, release 6.0.4.0). ES&S was ranked above other bidders, including Hart InterCivic, ClearBallot, Dominion, and Henry Adkins/Unisyn. In accordance with North Dakota Century Code, the Secretary of State's office certified the ES&S equipment and software before its use in 2020.

Whenever the state or counties either purchase a new voting system or the state updates an existing voting system, the system or enhancement considered must meet the certification standards required in NDCC § 16.1-06-26 and further detailed in NDAC Chapter 72-06-01.

The first part of the certification process is performed by an independent testing laboratory, certified by the National Institute of Science and Technology and approved by the Election Assistance Commission (EAC). The laboratory must ensure that the system provided by a vendor meets a certain set of Voluntary Voting System Guidelines (VVSG). Voting systems available today were approved according to VVSG 1.0 found at https://www.eac.gov/voting-equipment/voluntary-voting-system-guidelines. Future enhancements and systems will be certified to VVSG 1.1 or VVSG 2.0.

The second part of certification comes from the ND Secretary of State, who must certify that the new system or enhancement meets the requirements found in ND law. A system can only be used after both certification elements are completed.

Voting System Testing:

Before each election, the ballots and voting machine programming to be used in the election must be tested according to the logic and accuracy testing (L&A testing) plan developed by the Secretary of State's office. L&A testing is conducted with ballots to be used in every precinct and on the programming used to read the votes marked on those ballots. The L&A testing must be completed on all machines that will be used during the election. The L&A testing was designed to ensure that a vote marked for a candidate or ballot question choice is always recorded as a vote for that candidate or choice. The results of the L&A testing are only acceptable when the votes recorded match the votes marked on the ballots used in the test. This L&A testing process involves a large number of ballots with each candidate position and ballot question choice receiving a different number of votes to ensure the accuracy of the programming.

One week before the voting machines are used in the election, a public test of the machines is held in each county and the public is welcome and encouraged to attend. After completion of the public test, the programming is locked and sealed in the voting machines, and they are securely stored until they are to be used in the election. The numbered seals used are compared by the election board members before any ballots are tabulated to make sure that the programming has not been altered.

Voting in an Election:

Voting by Absentee or Mail

Voters who know they will not be voting in person at an election may prepare an application for a ballot to be mailed or handed to them before the election. This application for the ballot is outlined in NDCC § 16.1-07-06 and it must be completed in full. The data provided on the application must match the data for the individual as recorded in the CVF before the ballot is sent to the voter by the election official. If the application is incomplete or does not match the data in the CVF, the application is returned to the individual who submitted the application for correction. When the marked ballot is returned to the election official, the voter's record is updated to reflect that the voter has returned an absentee ballot.

If the signature on the back of the return envelope does not match the signature provided on the application, the voter is contacted and is required to either come into the County Auditor's office to verify the signatures with the ID used to obtain the ballot or send a photocopy of the ID. Without the voter making the necessary verification, the ballot is not counted. Voters are given until the meeting of the County Canvassing Board to make this verification to have their ballot included in the final tally.

Voting in Person at an Early Polling Place or at an Election Day Polling Place

Electronic Pollbooks – Purchased from KNOWiNK, Inc. of St. Louis, MO – https://knowink.com/

Before being given a ballot to mark and cast in an election, everyone must provide a valid form of ID (see valid forms above). Nearly every voter uses his or her ND driver's license when voting.

When voters request a ballot in a polling place, they are asked by the election clerk to place their valid ID in the slot provided on the electronic pollbook.

The PollPad reads the data from the ID and finds the voter's record in the database. When the election clerk has verified that the voter is a U.S. citizen, a resident of the precinct for at least the last 30 days, at least 18 years of age, has not already voted in the election, and is eligible to vote, the voter is given a ballot for the precinct of the address at which the voter resides.

These PollPads, used in every polling place in the state, operate separately from the ND voting system. The PollPads are connected through a secure and private network to every other PollPad used for the state's election. This means that the minute a voter is checked in to vote in one location, every other polling place's PollPads are updated with this data. This prevents voters from voting more than one time per election. The strong ID requirement and the use of PollPads are the state's best prevention for double voting.

Ballots

Everyone who votes in ND does so on a paper ballot that is the official record of the votes cast.

When the voter submits the marked ballot for tabulation in a polling place, the votes are tabulated by voting machines that the state purchased from Election Systems & Software of Omaha, NE, in 2019. These DS200 voting machines (see https://www.essvote.com/products/ds200/) require that a Zero Results tape be printed at the opening of the polls to confirm to the poll workers (with bipartisan representation) that there are no votes already recorded. Each member of the election board must sign off on this tape before voting may begin.

Tabulation and Ballot Marking Devices:

DS200

The machines themselves are essentially useless without the programming necessary to read the votes from the ballots cast by voters in that polling place. That programming resides on the machine via a flash drive that is manufactured in the U.S. for only this purpose and the programming is protected on that flash drive with military grade encryption. This flash drive is inserted into the DS200 after the public test of the voting machines prior to the election and locked in place with a keyed lock and a marked security seal. As an additional security measure, a different flash drive, also with encryption and password protection, must be inserted first to prepare the machine for the programming that will be inserted next. Without these multifactor authentication protocols being met perfectly, the machine remains useless.

While the DS200 is in use for the election, the access points remain under lock and key. A voter can only insert his or her ballot and reply to any error messages provided to the voter on the display screen, e.g., overvoted contest, cross-over voting, blank ballot. A poll worker is constantly monitoring the DS200 to provide assistance when requested and to prevent any attempts to tamper with it. In short, security is achieved by multifactor authentication, multiple passwords, keyed locks, seals, and physical observance.

ExpressVote

For those voters who live with a disability that prevents them from marking their own paper ballot without assistance, a ballot marking device known as the ExpressVote is provided at every polling place. To describe it most succinctly, the ExpressVote is an accessible pen for those who are not able to mark their own ballot or are unable to read. (See https://www.essvote.com/products/expressvote/.)

DS450

The ballots cast by absent voters are tabulated as well by a bipartisan election board on a voting machine called the DS450, which is a high-speed scanner. (See https://www.essvote.com/products/ds450/.)

The DS450 has the same security measures as the DS200, but it tabulates the votes from absentee ballots at a rate of approximately 50 ballots per minute. Both the DS200 and the DS450 make a digital image of the ballot as it tabulates the votes. This is different from the voting machines used in the state before 2020 as those machines only looked for the presence of marked ovals to tabulate the voter's choices.

The additional advantage provided by the DS450 is that it is an exceptional tool for sorting cast ballots to find the ones containing a specific contest for which the results were within the recount margins. This alleviates the tedious and often less reliable sorting by hand.

After the Polls Close

When the last voters have cast their ballots on election day, the DS200s and the DS450s are set by the bipartisan election boards to Polls Close. This triggers the programming to print a Vote Totals tape, which is a record of all the votes counted for every contest on any ballot run through the machine by or for qualified electors in the election. (The Secretary of State recommends that the election judge from each political party represented on the election board request a copy of this Vote Totals tape for independent verification purposes.) The election board members once again sign off on this tape and the flash drive is properly removed from the machine. The flash drive, Vote Totals tape, and ballots are then delivered by hand to the County Auditor's office.

Upon delivery of these materials, the County Auditor inserts the flash drive into the Electionware computer (a hardened computer that has never been, and never can be, connected to the internet) and the results from the polling place are copied from the flash drive to the Electionware software. These results are then added to the results from absentee ballots counted and the ballots cast in other polling places to total the results for the entire county. (See https://www.essvote.com/products/electionware/.)

Once again, only when the flash drive inserted in the Electionware computer has the proper encryption key for the election and the proper passwords are entered will the software add the votes counted on the flash drive with the totals from the other polling places. After the copy of the results is added, a report can be generated from the Electionware software so that the results copied from the polling place may be compared against the Vote Totals tape run at the polling place. This is to ensure that the results have not been tampered with between the polling place and the County Auditor's office.

At a convenient point during election night, a different single-use flash drive is inserted into the Electionware computer, and a copy of the votes recorded in the software is placed on it. This flash drive is then taken to yet another computer that also has only one purpose. This computer is connected to the state's private and secure network so that the votes recorded in the 53 counties can be added to the state's election results database. Access to this network requires multifactor authentication and strong passphrases. The election database then places another copy of these results onto the Secretary of State's Election Night Reporting website so that voters, candidates, the public, and the press can view **unofficial** results of the votes tallied in the election. The current election results, along with the past election results since ND became a state in 1889, can be viewed in the Election Results section of the Vote.ND.Gov website.

It is critical to remember that the results reported on the Election Night Reporting website are **unofficial** until they are verified by two other bipartisan election boards that meet in the days following the election, at which time, they become official. The first bipartisan election board is the County Canvassing Board, which is responsible for certification of the results cast on absentee ballots and those cast by voters in the various polling places in that specific county. The second is the State Canvassing Board, which certifies the results submitted by all 53 County Canvassing Boards. Only when the votes reported on the Election Night

Reporting website are verified against the votes certified by the Election Boards, County Canvassing Boards, and the State Canvassing Board does that record become an official copy of the election results. Until the election results are made official, the Election Night Reporting website should be seen only as a transparency window into the results that will eventually be certified.

Post-Election:

Before the County Canvassing Boards can meet, the Secretary of State randomly selects one precinct from each county and a post-election audit must be conducted on all voting machines that tabulated votes from that precinct in that county. Upon certification from the county that the votes are still being tabulated with 100% accuracy according to the approved logic and accuracy test, the County Canvassing Board can meet on the 13th day after the election to certify the results.

Conclusion:

The information provided above explains the processes that are in place to ensure the state's elections are run with integrity. In addition to these processes, there are many other responsibilities for election administration that are completed daily by the Secretary of State and the state's 53 County Auditors. ND election officials are committed to election integrity and the state's residents have every right to expect our best to have confidence in election outcomes.