



## The Cast Vote Record

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If you are following election integrity these days, you may have been hearing about something called a “Cast Vote Record” (CVR). Our Minnesota Secretary of State, Steve Simon was recently asked at a media event if he was in favor of requiring election officials to ensure the electronic voting machines were set to capture the Cast Vote Record. His answer was revealing. He stated “I am just beginning to hear about this cast vote record”. He went on to say that he thought it was something activists in other states were getting excited about, but “It’s just not a Minnesota thing”.

Well Mr. Simon, it is “a Minnesota thing”. The CVR is in the operating manual provided by the machine vendors, Dominion and ES & S. The exact terminology of “Cast Vote Record”, is not used by ES & S, but the record capture capability exists in all the machines and is active by default. In other words, it must be consciously turned off (as one might do under certain maintenance or testing procedures), but it exists and is critical to support election results.

A description of this functionality will be helpful to understand how the electronic voting tabulators work. In addition, you will see why the CVR MUST exist in the machines and why it is critical to the integrity of our elections.

In a sense the CVR can be thought of as having two major parts: 1) a digital image and 2) a database that captures and stores the votes, in sequential order as they are cast.

In Minnesota, when a ballot is completed it contains a series of ovals filled-in signifying the voter’s choice of candidates. When the voter inserts the ballot into the machine, the ballot is “read” and a digital copy of the ballot is created. The electronic tabulator does not count the actual ballot, it counts the digital image of the ballot (the electronic machine operates in a digital world and requires a series of 1s and 0s, thus the paper ballot is meaningless – the digital image, which should be an exact reproduction of the actual ballot is what can be counted).

That digital image created in part 1 is then posted to a database as part 2 of the CVR. The database can be envisioned as a spreadsheet with a row for each ballot counted, in the order it was cast. That row would also include a date & time stamp for when the ballot was read and a record number for the ballot read. Columns for each candidate are present. When the ballot image indicates a vote was made for a particular candidate, a hash mark is made on that row for that candidate.

When the polls close, part 2 of the CVR – the candidate votes - are totaled and a summary report is printed by the vote tabulator. This report, which appears to be a long cash register-like receipt is the official total of the precinct.



When understood in this manner, it is clear the CVR consists of the detail image of each ballot and a digital recap of the detail for each and every vote cast, in the order they were cast. THIS DATA MUST EXIST IN SUFFICIENT DETAIL FOR A SUMMARY REPORT TO BE PRODUCED. IF IT DOES NOT EXIST, HOW ARE THE CANDIDATE VOTE TOTALS GENERATED?

**“Not a Minnesota thing, Mr. Secretary?”** This deceit or ignorance is from the Secretary of State of Minnesota, who oversees our elections. The one who tells us, ad nauseum, that Minnesota has an election system that is the envy of the nation. Really, Mr. Secretary? What is it that you don’t want the citizens to see? How are the votes counted? It must be true, then it is **not so important who votes, but who gets to count (and manage the counting of) the votes.**

*Now that you know what a CVR is, see the article titled **“Reconciliations at the Polling Place”** to see how Minnesota polling places are missing a MAJOR internal control to detect and correct potential errors in the vote tally.*