Analysis and Report of Overvotes and Undervotes for the 2014 General Election

Pursuant to Section 101.595, Florida Statutes

January 31, 2015

Florida Department of State
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Executive Summary

Section 101.595, Florida Statutes, directs the Department of State to evaluate the performance of each type of voting system after each general election and whether ballot design or instructions contributed to voter confusion. The Department must then report its findings to the Legislature and the Governor by January 31 of the year following that election.

The law requires the report to be based on overvote and undervote data submitted by each Florida county as pertains to the race that appears first on the ballot in a general election year. For the 2014 general election, the top race on the ballot was the "Governor and Lieutenant Governor" contest. For purposes of this report, the following definitions apply:

Overvote: when a voter casts more votes than allowed in a contest.
Undervote: when the voter did not properly designate a choice for a contest and/or the tabulator records no vote for the contest.

The Department makes the following findings for the 2014 General Election:

1. The overvote and undervote rates showed very nominal change from prior gubernatorial elections. The overvote rate increased while the undervote rate decreased. The method of casting a vote is a factor in the overvote and undervote rates. The absentee voting method consistently produced a higher number of overvotes and undervotes than during early voting and Election Day. This is also consistent with prior reports.

2. The Department finds nothing in the compiled gubernatorial contest data to suggest that voter confusion existed during the election as a result of ballot design and/or ballot instructions issues, or that the voting equipment manifested any anomalies.

3. An inherent bias exists for reporting lower than actual *overvote* rates (or conversely higher than actual *undervote* rates) due to the current requirement in section 101.5614(5), Florida Statutes for duplicating a ballot that requires an absentee ballot with an overvoted contest to be duplicated as a ballot with only valid votes. This results in an underrepresentation of actual overvotes. This bias is compounded by current polling place practices in some counties that place overvoted or blank ballots (which voters choose to cast) in emergency bins rather than to tabulate at the precinct and which are then subsequently duplicated in accordance with the same duplication procedures as is used for absentee ballots.

4. A historical overview of the overvote and undervote data consistently shows no demonstrable correlation as to whether ballot design and/or instructions confused voters, and whether the voting system manifested any anomalies.

Based on the foregoing, the Department recommends the following:

- To more accurately reflect actual overvote and undervote data and rates, Supervisors of elections who have not otherwise established such procedures must train pollworkers to allow a voter who chooses to vote an overvoted ballot on Election Day or during early voting period to immediately cast the ballot in the precinct tabulator, in lieu of placing the overvoted ballot in the emergency bin for subsequent duplication and canvassing by the canvassing board. This may help to minimize underrepresented overvote data.

- To better identify any potential issues and correlate a cause and effect on how voting systems performed and how the voting process including ballot design and instructions might have affected voters, the overvote and undervote report and the conduct of elections report should be combined into a single report comprising, at a minimum, all the data elements from those reports and reported at the same time.

Introduction

Section 101.595, Florida Statutes, directs the Department of State to analyze and report on the performance of each type of voting system after every general election. The basis for this analysis is the overvote and undervote report that is provided by each Florida County for either the "President and Vice President" contest or "Governor and Lieutenant Governor" contest or, if neither is present, the first contest on the ballot. The Department of State analyzes this information and reports its findings to the Legislature and the Governor by January 31 of the year following the general election.

This report focuses on factors relating to the "*no valid votes*" being cast for the contest of the Governor and Lieutenant Governor in the 2014 General Election. The "*no valid votes*" consist of three categories:

- *Overvote.* An overvote occurs when a voter casts more votes than allowed in a contest. An overvote is typically attributed to voter error and is the primary reason why ballots, other than absentee and provisional ballots, are tabulated at the polling location. By tabulating the ballots at the polls, the voter is immediately alerted to the error when the tabulator rejects the ballot. The voter is then given the choice to correct the ballot or to cast the rejected ballot. In the case of an absentee or provisional ballot voter, no mechanism exists to let the voter know that he or she has overvoted one or more contests or provide an opportunity to correct it.

- *Undervote.* An undervote means that the voter did not properly designate a choice for a contest and/or the tabulator records no vote for the contest. Although an undervote may be due to a voting machine error, most often it reflects a voter's intent not to vote in a particular contest. It may be for any number of reasons including a lengthy ballot, an express wish not to vote in a particular contest due to disinterest or as a protest, or a desire to maintain active voter history status without an interest in the ballot. Current voting systems, as counties currently code them, only alert the voter as to a blank ballot (not whether there is one or more undervoted contests.) As in the case of overvoting, no mechanism exists to let an absentee or provisional ballot voter know that he or she has undervoted one or more contests or to provide an opportunity to correct it.

- *Invalid write-in vote.* An invalid write-in vote may be due to voter error, such as unintentionally writing in a valid candidate's name from another contest, or intentionally writing in (as protest) "Mickey Mouse," "None of the above," "Anybody but [candidate]," or a fictitious name.

With the exception of persons with disabilities who still have the option of voting on Direct Recording Electronic (DRE) touchscreen machines, all voting in Florida must be by paper/marksense ballot method in connection with a paper tabulator scanner.[1] Twenty-two counties[2] use the AutoMark ballot marking device for disability compliance, and seven counties use the Dominion ICE, both of which satisfy the paper ballot requirement. By 2020, the remaining counties which currently use touchscreen machines will need to provide disability accessibility machines that meet the requirements[3] of the Help America Vote Act (HAVA)[4] *and* permit the voter to cast a paper/marksense ballot.[5]

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[1] Section 101.56075, Florida Statutes.
[2] As reported by the counties to the Florida Division of Elections.
[3] A voting device with equipment compliant with the Americans with Disabilities Act is known as an ADA device.
[4] HAVA (Title III, Section 301, Public Law 107-252).
[5] Section 101.56075(3), Florida Statutes.

The certified voting systems in Florida's 67 counties fall into four vendor-labeled categories: Elections Systems and Software, Inc. (ES&S), Premier Election Solutions (GEMS), Sequoia Voting Systems, Inc. (Sequoia), and Dominion Voting Systems, Inc. (Dominion).[6] In actuality, only two active voting system vendors provide and service certified voting systems in Florida: ES&S and Dominion.[7] Sequoia and Premier are Dominion product lines. Currently, 32 Florida counties use Dominion voting systems, and 35 counties use ES&S voting systems.[8]

Methodology

For purposes of this report, the 2014 General Election data was analyzed on the basis of the eleven types of voting systems' tabulation devices (tabulators). The eleven types of tabulators were further segregated in the table below according to their use in early voting (EV), Election Day (ED), and absentee voting (AB). Since 2010, the Department has been analyzing the data at the tabulator level. This analytical approach offers more flexibility, provides greater details and can be applied even in the event of future changes in voting system configuration.

Tabulators		Number of Counties		
		Early Voting (EV)	Election Day (ED)	Absentee Ballots (AB)
Sequoia Counties -	Insight+	2	2	0
Sequoia Counties -	400-C	0	0	2
Democracy Suite -	ICE	7	7	3
Democracy Suite -	ICC	0	0	4
GEMS Counties -	AVOS	19	21	18
GEMS Counties -	AVOSX	4	2	0
GEMS Counties -	PCS	0	0	5
ES&S Counties -	M100	14	14	12
ES&S Counties -	DS200	21	21	1
ES&S Counties -	M650	0	0	16
ES&S Counties -	DS850	0	0	6
	Total	67	67	67

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Pursuant to Section 101.595(1), F.S., the 67 county supervisors of elections must report their raw overvote and undervote data to the Florida Department of State. Counties submitted their data using the same form template as was used for 2010 and 2012. During the data verification, reconciliation and compilation process, counties were contacted for explanations of any discrepancies or unusual entries. The aggregate data was then analyzed according to voting

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[6] With the exception of Sequoia counties who use ballots with the "arrow" target selection, all counties use "oval" target selection on the ballots.

[7] In 2009, ES&S acquired Premier Election Solutions from Diebold Elections Systems, Inc. In 2010, the U.S. Department of Justice forced ES&S to divest elements of the Premier line of voting systems due to monopoly concerns. As part of the agreement, Dominion Voting Systems, Inc. (Dominion) then acquired Premier's voting systems. In 2010, Dominion also acquired Sequoia Voting Systems, Inc.

[8] Seminole county is alone in being supported by ES&S for its Premier GEMS 1.20.2 voting system with Accuvote OS machines. All other counties using Premier voting systems are supported by Dominion. Seminole county is included in the Premier counties' AVOS machine count, although they are supported by ES&S.

equipment (tabulation device).[9] Prior to 2010, the data was analyzed according to voting system. The reason for the change is because counties commonly upgrade their voting systems as election management system (EMS) versions and software and firmware upgrades become available (and become certified by the Department of State). In contrast, counties infrequently upgrade or change their tabulation devices.[10] Therefore it is easier and better to compare data sets from multiple election years at the tabulation device level rather than at the voting system version, software version, or firmware version levels.

Tables presented in this report show not only statewide results, but results aggregated by tabulator. Comparisons are done with the results only for 2010 and 2014. Data was not compared between the optical scanner tabulator device and DRE touchscreen tabulator device. No meaningful analysis can be done on the DRE touchscreen ballots cast. Since 2010, the touchscreen votes have been combined with the counties' optical scan tabulator group data. For 2014 general election, only 506 (0.008%) of the state's total ballots cast were cast via DRE touchscreen Therefore, the aggregated touchscreen votes in the marksense totals did not bias the results.

Results for years other than 2010 and 2014 can be found in earlier reports.

Results

Finding. The overvote and undervote rates whether by voting method or by tabulator type or the "no valid votes" by voting system for the 2014 General Election on the gubernatorial contest are comparable to the rates found and reported previously. 'Voting method' refers to the different ways Florida voters may cast ballots: by absentee, during the early voting period, or on Election Day.

Table 1 shows that the undervote rate for all voting methods decreased between the 2010 and 2014 gubernatorial elections, while the overvote rate increased for all voting methods.

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Table 1
Gubernatorial Contest, 2010 vs. 2014
Overvote and Undervote Rate by Voting Method

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	Undervote Rate				Overvote Rate		
	2010 Governor	2014 Governor	Change		2010 Governor	2014 Governor	Change
Early Voting	1.13%	0.63%	-0.50%	Early Voting	0.04%	0.08%	0.04%
Election Day	1.34%	0.94%	-0.40%	Election Day	0.07%	0.14%	0.07%
Absentee	2.01%	1.11%	-0.90%	Absentee	0.11%	0.38%	0.27%
Overall	**1.49%**	**0.93%**	**-0.56%**	**Overall**	**0.07%**	**0.20%**	**0.13%**

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[9] Although the same data elements have been reported since 2008, and the aggregate data verified and reconciled in the same manner, a change in methodology in 2010 for analyzing allowed a more enhanced look at the voting systems at the tabulator level and at the voting method level.

[10] For example, of the 65 counties that made some change to their voting systems between 2010 and 2014 (as reported to the Department of State), all 65 counties changed the EMS software; 12 counties changed their precinct scanner devices, 25 counties changed ADA devices, and 16 counties changed central count scanners.

Table 2 shows that the percentage of "no valid votes" in the gubernatorial contest dropped by 0.47%, from 1.83% in 2010 to 1.36% in 2014. Additionally, the percentage of "no valid votes" dropped for each equipment type between the 2010 and 2014 Governor's races.

Table 2
Gubernatorial Contest, 2010 vs. 2014
"No Valid Vote" Rate by Voting System

| | | 2010 Governor | | | | 2014 Governor | | | |
| | | Number of Counties | | | % No Valid | Number of Counties | | | % No Valid |
Tabulators		EV	ED	AB	Votes	EV	ED	AB	Votes
Sequoia Counties -	Insight +	2	2	0	1.72%	2	2	0	1.37%
Sequoia Counties -	400-C	0	0	2	2.29%	0	0	2	2.25%
Democracy Suite -	ICE	N/A	N/A	N/A		7	7	3	1.29%
Democracy Suite -	ICC	N/A	N/A	N/A		0	0	4	1.78%
GEMS Counties -	AVOS	27	31	26	1.75%	19	21	18	1.42%
GEMS Counties -	AVOSX	6	2	3	1.56%	4	2	0	0.96%
GEMS Counties -	PCS	0	0	4	2.16%	0	0	5	1.56%
ES&S Counties -	M100	16	16	0	1.79%	14	14	12	1.42%
ES&S Counties -	DS200	16	16	13	1.82%	21	21	1	1.15%
ES&S Counties -	M650	0	0	19	2.24%	0	0	16	1.69%
ES&S Counties -	DS850	N/A	N/A	N/A		0	0	6	1.89%
	Total =	67	67	67	1.83%	67	67	67	1.36%

Note: N/A entries reflect that the Democracy Suite voting system and the ES&S DS850 Central Count scanner were not used in Florida during the 2010 elections.

Table 3 shows that the undervote rate decreased for all tabulator types, while the overvote rate remained the same or increased for all tabulator types.

Table 3
Gubernatorial Contest, 2010 vs. 2014
Undervote and Overvote Rate by Tabulator Type

| | | 2010 Governor | | | | | | 2014 Governor | | | | | |
| | | % UV | % UV | % UV | %OV | %OV | %OV | % UV | % UV | % UV | %OV | %OV | %OV |
Tabulators		EV	ED	AB	EV	ED	AB	EV	ED	AB	EV	ED	AB
Sequoia Counties -	Insight +	1.39%	1.47%		0.09%	0.10%		0.65%	1.15%		0.11%	0.27%	
Sequoia Counties -	400-C			2.14%			0.13%			1.22%			0.81%
Democracy Suite -	ICE	N/A	N/A	N/A	N/A	N/A	N/A	0.75%	1.00%	1.95%	0.05%	0.05%	0.22%
Democracy Suite -	ICC	N/A	N/A	N/A	N/A	N/A	N/A			1.45%			0.12%
GEMS Counties -	AVOS	1.62%	1.25%	1.72%	0.03%	0.01%	0.03%	0.73%	0.93%	1.22%	0.03%	0.03%	0.31%
GEMS Counties -	AVOSX	1.06%	1.30%	1.95%	0.01%	0.02%	0.01%	0.54%	0.77%		0.01%	0.02%	
GEMS Counties -	PCS			2.09%			0.05%			1.07%			0.20%
ES&S Counties -	M100	1.25%	1.38%		0.06%	0.11%		0.79%	0.87%	1.55%	0.07%	0.14%	0.20%
ES&S Counties -	DS200	1.35%	1.35%	2.55%	0.03%	0.05%	0.14%	0.60%	0.94%	1.40%	0.10%	0.17%	0.19%
ES&S Counties -	M650			2.09%			0.16%			1.00%			0.46%
ES&S Counties -	DS850	N/A	N/A	N/A	N/A	N/A	N/A			1.33%			0.12%

Table 4 shows that the rate of invalid write-in ballots remained consistent from 2010 to 2014. The state-wide mean decreased by 0.03%, from 0.27% to 0.24%.

Table 4
Gubernatorial Contest, 2010 vs. 2014
Invalid Write-In Rate by Tabulator Type

| Tabulators		2010 Governor	2014 Governor
Sequoia Counties -	Insight +	0.17%	0.14%
Sequoia Counties -	400-C	0.00%	0.19%
Democracy Suite -	ICE	N/A	0.28%
Democracy Suite -	ICC	N/A	0.22%
GEMS Counties -	AVOS	0.34%	0.34%
GEMS Counties -	AVOSX	0.25%	0.26%
GEMS Counties -	PCS	0.00%	0.28%
ES&S Counties -	M100	0.36%	0.36%
ES&S Counties -	DS200	0.34%	0.17%
ES&S Counties -	M650	0.00%	0.23%
ES&S Counties -	DS850	N/A	0.44%
Statewide		0.27%	0.24%

Note: N/A entries reflect that no data exists to compare because in 2010, the invalid write-ins for a county were grouped under their precinct tabulator type rather than being separated out by equipment type.

The method of casting a vote is a consistently recurring factor in the overvote and undervote rates. Even though the absentee voting method only comprised about 31% of total ballots cast, it generated the greatest number of overvotes and undervotes in the election. A comparison of **charts 1 and 2** demonstrate this finding more clearly.

Chart 1 shows the overall distribution of total ballots cast by voting method for the 2014 General Election.

Chart 1
Distribution of Total Ballots, 2014

Absentee — 31.26%
Election Day — 47.04%
Early Voting — 21.70%
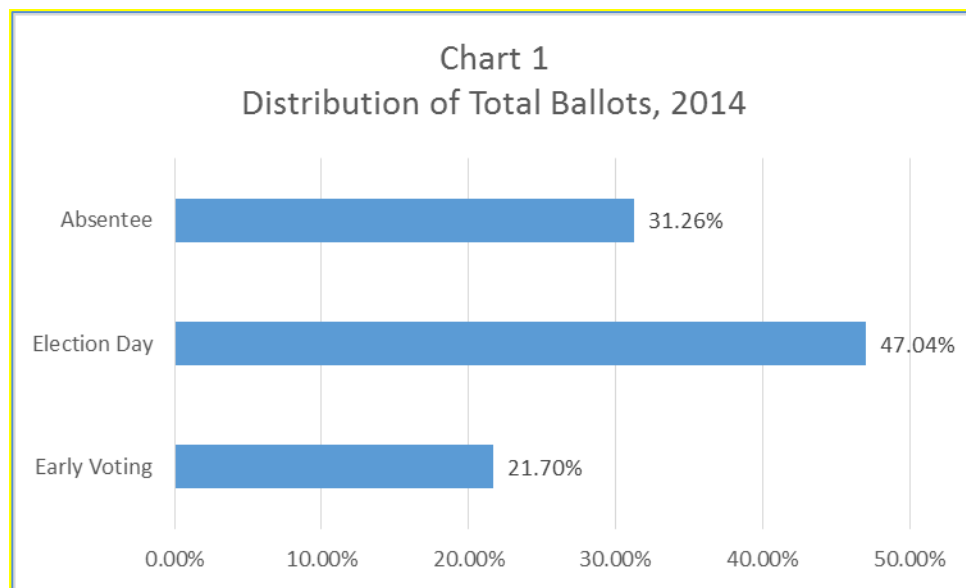
Chart 2 shows where the percentages of overvotes and undervotes were cast relative to the voting method. The absentee voting method generated the most undervotes and overvotes in the election by a sizable margin.
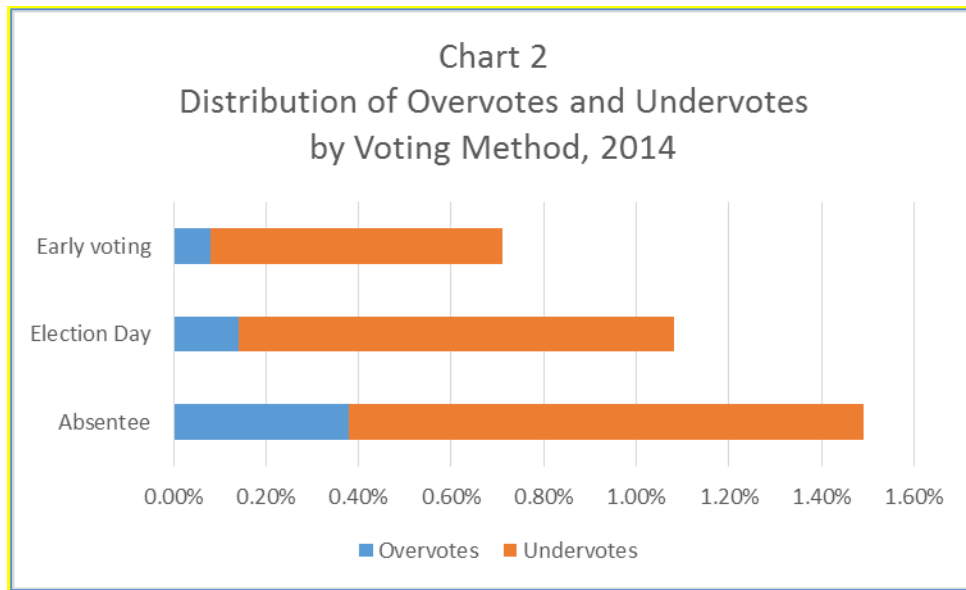
Because this pattern held true for every tabulation device (refer to **Table 3**), the finding is more likely attributable to a factor other than tabulation device. The likely factor is that no mechanism (statutory or procedural) currently exists to notify an absentee voter to correct his or her overvote or undervote before the absentee ballot is canvassed. Once the voted absentee ballot is received in the supervisor of elections' office, it is deemed cast. Applying the same analysis to historical data and reviewing prior year reports shows a similar result -- the absentee voting method generates more overvotes and undervotes than each of the other voting methods.

Finding. Nothing in the compiled gubernatorial contest data demonstrably indicates that voter confusion existed during the election as a result of ballot design and/or ballot instructions issues.

Finding. Analysis of the detailed information submitted by Florida counties did not reveal any anomalies with the voting equipment.

Finding. An historical overview of the overvote and undervote data consistently shows no demonstrable correlation as to whether ballot design and/or instructions confused voters, and whether the voting system manifested any anomalies.

Conclusion

The results of analysis of the overvotes and undervotes in the 2014 General Election show very nominal change, compared to the 2010 gubernatorial general election. Overvote and undervote rates are comparable to the rates found in that prior election:

- The overall undervote rate decreased from 1.49% to 0.93%

- The overall overvote rate increased from 0.07% to 0.20%.

- The invalid write-in rate decreased from 0.27% to 0.24%.

- The total rate of "no valid votes" decreased from 1.83% to 1.36%.

As noted in previous reports, the method of casting a vote has been found to be a factor affecting the number of overvotes and undervotes. When compared with early voting and Election Day, the absentee voting method clearly produces a higher number of overvotes and undervotes.

Nonetheless an inherent bias continues to exist resulting in the underrepresentation of actual *overvote* rates (or conversely higher than actual *undervote* rates). The bias is attributable to the current requirement in section 101.5614(5), Florida Statutes for duplicating a ballot that is not otherwise tabulated at the precinct. County canvassing boards are required to duplicate an absentee ballot with an overvoted contest as a ballot that includes only valid votes. This process has the unintended effect of changing an overvoted contest into an undervoted contest. However, no mechanism (statutory or procedural) exists to notify an absentee voter that he or she has cast an overvoted or blank ballot and to correct that ballot before the ballot is canvassed because an absentee ballot is deemed cast upon receipt by the Supervisor of Elections' office.

In addition, current polling place practices in some counties may also enhance this bias. In counties that use the ES&S DS200 or the Dominion ICE, the voter can override the tabulator to cast such a ballot without interaction or assistance from the poll worker. However, in counties that use precinct tabulators such as the Sequoia Insight Plus, Premier AVOS, Premier AVOSX, and ES&S M100, the poll worker would have to override the tabulator when a voter chooses to cast a blank ballot or a ballot with an overvoted contest. In some of these counties, they do not allow the poll worker to override the tabulation device and instead, the poll worker places the blank ballot or overvoted ballot in an emergency bin. Consequently, those ballots are later duplicated without the overvoted contest in the same manner as is done for absentee ballots per the requirements of section 101.5614(5), Florida Statutes.

The aforementioned processes result in an overvoted contest being expressed as an undervoted contest, which in turn could hinder identification and reporting of an issue with a voting system and/or underrepresent an *overvote* rate.

Otherwise, nothing in the compiled gubernatorial contest data suggests or indicates that voter confusion existed during the election as a result of ballot design and/or ballot instructions issues, or revealed any anomalies with the voting equipment. Furthermore, a historical overview of the overvote and undervote data and reports consistently shows no demonstrable correlation as to whether ballot design and/or instructions confused voters, and whether the voting system manifested any anomalies.

Recommendations

Based on the findings and conclusion, the Department makes the following recommendations:

1. To more accurately reflect actual overvote and undervote data and rates, Supervisors of elections who have not otherwise established such procedures must train pollworkers to allow a voter who chooses to vote an overvoted ballot to immediately cast the ballot in all precinct tabulators (not just the ES&S DS200 and Dominion ICE), in lieu of placing the overvoted ballot in the emergency bin for subsequent duplication and canvassing by the canvassing board. This may help to minimize underrepresented overvote data.

2. To better identify any potential issues and correlate a cause and effect on how voting systems performed and how the voting process including ballot design and instructions might have affected voters, the overvote and undervote report and the conduct of elections report should be combined into a single report comprising, at a minimum, all the data elements from those reports and reported at the same time.