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Appendix A

AB 2023 (Saldaña), Chapter 122, Statutes of 2010

Assembly Bill No. 2023

CHAPTER 122

An act to amend Sections 15620, 15621, 16401, and 16421 of, and to add Chapter 8.5 (commencing with Section 15560) to Division 15 of, the Elections Code, relating to elections.

[Approved by Governor July 19, 2010. Filed with Secretary of State July 19, 2010.]

LEGISLATIVE COUNSEL'S DIGEST

AB 2023, Saldana. Election results.

Existing law requires that, after an election, each county conduct an official canvass of the ballots cast in the election and report the final results to the relevant governing board and the Secretary of State.

This bill would authorize the Secretary of State to establish a postcanvass risk-limiting audit pilot program in 5 or more voluntarily participating counties for the purpose of verifying the accuracy of election results. Under the program, a participating county would conduct an audit of one or more contests in each election after the tabulation of the unofficial final results, as defined, or after completion of the official canvass for the election. The bill would require that the audit be conducted in public view and by manual tally, and would further require the Secretary of State to report to the Legislature on or before March 1, 2012, on the effectiveness and efficiency of these audits.

DIGEST KEY

Vote: MAJORITY   Appropriation: NO   Fiscal Committee: YES   Local Program: NO

BILL TEXT
THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1.

Chapter 8.5 (commencing with Section 15560) is added to Division 15 of the Elections Code, to read:

CHAPTER 8.5. Postcanvass Risk-Limiting Audit Pilot Program
15560.
 (a) The Secretary of State is authorized to establish a postcanvass risk-limiting audit pilot program in five or more counties to improve the accuracy of, and public confidence in, election results. The Secretary of State is encouraged to include urban and rural counties; counties from northern, central, and southern California; and counties with various different voting systems.

(b) The pilot program described in subdivision (a) shall be conducted as follows:

(1) During the year 2011, each county that chooses to participate in the pilot program shall conduct a postcanvass risk-limiting audit of one or more contests after each election in that county.

(2) An elections official conducting an audit pursuant to this section shall do all of the following:

(A) Provide at least a five-day public notice of the time and place of the random selection of the audit units to be manually tallied and of the time and place of the audit.

(B) Make available to the public a report of the vote tabulating device results for the contest, including the results for each audit unit in the contest, prior to the random selection of audit units to be manually tallied and prior to the commencement of the audit.

(C) Conduct the audit upon tabulation of the unofficial final results or upon completion of the official canvass for the election.

(D) Conduct the audit in public view by hand without the use of electronic scanning equipment using the tally procedures established by Section 15360 for conducting a manual tally.

(3) On or before March 1, 2012, the Secretary of State shall report to the Legislature on the effectiveness and efficiency of postcanvass risk-limiting audits conducted pursuant to this section. The report shall include an analysis of the efficiency of postcanvass risk-limiting audits, including the costs of performing the audits, as compared to the 1-percent manual tallies conducted in the same election pursuant to Section 15360.

(c) An audit shall not be conducted pursuant to this section with respect to a state or multijurisdictional contest unless all of the counties involved in the contest choose to participate in the pilot program authorized by this section.

(d) For purposes of this section, the following terms have the following meanings:

(1) "Audit unit" means a precinct, a set of ballots, or a single ballot. A precinct, a set of ballots, or a single ballot may be used as an audit unit for purposes of this section only if all of the following conditions are satisfied:

(A) The relevant vote tabulating device is able to produce a report of the votes cast in the precinct, set of ballots, or single ballot.

(B) The elections official is able to match the report described in subparagraph (A) with the ballots corresponding to the report for purposes of conducting an audit pursuant to this section.

(C) Each ballot is assigned to not more than one audit unit.

(2) "Contest" means an election for an office or for a measure. "Contest" shall not include either of the following:

(A) An election for a political party central committee, as provided in Division 7 (commencing with Section 7000).

(B) An advisory election, as provided in Section 9603.

(3) "Risk-limiting audit" means a manual tally employing a statistical method that ensures a large, predetermined minimum chance of requiring a full manual tally whenever a full manual tally would show an electoral outcome that differs from the outcome reported by the vote tabulating device for the audited contest. A risk-limiting audit shall begin with a hand tally of the votes in one or more audit units and shall continue to hand tally votes in additional audit units until there is strong statistical evidence that the electoral outcome is correct. In the event that counting additional audit units does not provide strong statistical evidence that the electoral outcome is correct, the audit shall continue until there has been a full manual tally to determine the correct electoral outcome of the audited contest.

(4) "Unofficial final results" means election results tabulated pursuant to an official canvass conducted pursuant to Chapter 4 (commencing with Section 15300) but not yet reported to the governing board or the Secretary of State pursuant to subdivision (h) of Section 15302.

SEC. 2.

Section 15620 of the Elections Code is amended to read:

15620.

Following completion of the official canvass and again following completion of any postcanvass risk-limiting audit conducted pursuant to Section 15560, any voter may, within five days thereafter, file with the elections official responsible for conducting an election in the county wherein the recount is sought a written request for a recount of the votes cast for candidates for any office, for slates of presidential electors, or for or against any measure, provided the office, slate, or measure is not voted on statewide. The request shall specify on behalf of which candidate, slate of electors, or position on a measure (affirmative or negative) it is filed.

If an election is conducted in more than one county, the request for the recount may be filed by any voter within five days, beginning on the 29th day after the election, with the elections official of, and the recount may be conducted within, any or all of the affected counties.

For the purposes of this section, "completion of the canvass" shall be presumed to be that time when the elections official signs the certified statement of the results of the election except that, in the case of a city election, if a city council canvasses the returns itself and does not order the elections official to conduct the canvass, "completion of the canvass" shall be presumed to be that time when the governing body declares the persons elected or the measures approved or defeated.

SEC. 3.

Section 15621 of the Elections Code is amended to read:

15621.

Following completion of the official canvass any voter may, within five days beginning on the 29th day after a statewide election, file with the Secretary of State a written request for a recount of the votes cast for candidates for any statewide office or for or against any measure voted on statewide. Additionally, any voter may file with the Secretary of State a written request for a recount of the votes cast for candidates for any statewide office or for or against any measure voted on statewide within five days following completion of any postcanvass risk-limiting audit conducted pursuant to Section 15560. A request filed pursuant to this section shall specify in which county or counties the recount is sought and shall specify on behalf of which candidate, slate of electors, or position on a measure (affirmative or negative) it is filed.

The Secretary of State shall forthwith send by registered mail one copy of the request to the elections official of each county in which a recount of the votes is sought.

All the other provisions of this article shall apply to recounts conducted under this section.

SEC. 4.

Section 16401 of the Elections Code is amended to read:

16401.

The contestant shall verify the statement of contest, as provided by Section 446 of the Code of Civil Procedure, and shall file it within the following times after either the declaration of the result of the election or the declaration of the results of any postcanvass risk-limiting audit conducted pursuant to Section 15560 by the body canvassing the returns thereof:

(a) In cases other than cases of a tie, where the contest is brought on any of the grounds mentioned in subdivision (c) of Section 16100, six months.

(b) In all cases of tie, 20 days.

(c) In cases involving presidential electors, 10 days.

(d) In all other cases, 30 days.

SEC. 5.

Section 16421 of the Elections Code is amended to read:

16421.

The affidavit shall be filed in the office of the clerk of the superior court having jurisdiction within five days after either the completion of the official canvass or the completion of any postcanvass risk-limiting audit conducted pursuant to Section 15560 by the county last making the declaration. In the case of an office for which candidates are certified for the ballot by the Secretary of State, or in the case of a statewide ballot measure, the superior court having jurisdiction shall be the Superior Court for the County of Sacramento.

Appendix B

Audit Tools Website
statistics.berkeley.edu/~stark/Vote/auditTools.htm

Tools for Comparison Risk-Limiting Election Audits

This page implements some tools to conduct "comparison" risk-limiting audits as described in A Gentle Introduction to Risk-Limiting Audits (AGI), by Lindeman and Stark. For an implementation of tools for "ballot-polling" risk-limiting audits as described in AGI, see http://statistics.berkeley.edu/~stark/Vote/ballotPollTools.htm.

To hide or show everything but the tools, click this link.

A *risk-limiting audit* is a procedure that is guaranteed to have a large chance of progressing to a full hand count of the votes if the electoral outcome is wrong. The outcome according to the hand count then replaces the outcome being audited. The *risk limit* is the maximum chance that the audit will not progress to a full hand count if the electoral outcome is incorrect, no matter why it is incorrect—whether because of voter error, bugs, pollworker error, or deliberate fraud—provided the audit trail is complete and accurate.

There are many methods for conducting risk-limiting audits. This page performs calculations for a particularly simple method described in AGI. The method is a type of *comparison audit*: It involves comparing the interpretation of ballots according to the voting system (the cast vote record or CVR) to a human interpretation of the same ballot. Differences between the two interpretations are noted. Determining whether the audit can stop depends on the number and nature of those differences, the number of ballots examined so far, the risk limit, and the diluted margin. The smaller the risk limit or the diluted margin, the larger the number of ballots that must be audited, all else equal.

The difference can be neutral, an *understatement*, or an *overstatement*, depending on the effect of changing the voting system interpretation of the ballot to match the hand interpretation: Consider the *pairwise margin* between each winner and each loser in a contest. For instance, a city council election might involve voting for three candidates from a pool of ten, to fill three seats on the council. Then each of the three winners can be paired with each of the seven losers, giving twenty-one pairwise margins in that contest. If changing the interpretation of a ballot according to the voting system to make it match the human interpretation of the ballot would widen *every* pairwise margin in *every* contest under audit, that ballot has an *understatement*. Understatements do not call the outcome into question. If changing the interpretation according to the voting system to match the human interpretation would narrow *any* pairwise margin in *any* contest under audit, the ballot has an *overstatement*. If enough ballots have overstatements, the outcome could be wrong.

The sample size calculations for this method depend on the risk limit as well as the *diluted margin*, which is the margin in votes divided by the number of ballots cast in any of the contests being audited together, including undervotes and overvotes. Undervotes and overvotes are included because they might have been intended as votes for candidates, misinterpreted by the voting system as undervotes or overvotes. Because the

Efficient risk-limiting audits generally count votes by hand until there is convincing evidence that the outcome according to a full hand count would agree with the outcome under audit. If convincing evidence is not forthcoming, the audit progresses to a full hand count, which is used to correct the outcome under audit if the two disagree.

The tools on this page help perform the following steps:

Visualizing the required sample size

The ultimate sample size required to confirm the outcome depends on the diluted margin and the number of errors (both understatements and overstatements) found in the sample, as well as the risk

limit. The following graph plots the sample size as a function of the number of 1-vote overstatement errors the audit finds, for diluted margins of 0.5%, 1%, 5%, 10%, and 20%, all at risk limit 10%. It also plots the expected final sample size as a function of the diluted margin, for various rates of observed 1-vote overstatements. The plot assumes that there are no 2-vote overstatements and no understatements.

Expected sample size as a function of the diluted margin, 10% risk limit

☐ Plot final sample size as a function of observed 1-vote overstatements

Initial sample size

The initial sample size tool lets you enter the particulars of the contest(s) to be audited as a group: the total ballots cast across all the contests combined, and the vote totals for each candidate in each contest. The form helps you anticipate the number of randomly selected ballots that will need to be compared to their CVRs to attain a given limit on the risk, under assumptions about the rates of differences anticipated. It is completely legitimate to sample one at a time and check whether enough have been sampled using the "stopping sample size tool," (later in this page) but this form can help auditors anticipate how much work will be required and retrieve ballots more efficiently, by reducing the number of times a given batch of ballots is opened.

Enter the total number of ballots cast in all contests to be audited. Add candidates and contests as necessary until the results from all contests have been entered. Enter the desired risk limit and the expected rates of one- and two-vote differences. Select whether to round up the expected number of differences of each type. Finally, click "calculate" to find the starting sample size.

Initial sample size
Contest information
Ballots cast in all contests: [＿＿＿＿] Smallest margin (votes): undefined. Diluted margin: undefined.

Contest 1. Contest name: [＿＿＿＿＿＿＿＿＿＿＿]
Winners: [1 ▾]

Reported votes:

Candidate 1 Name: [   ]   Votes: [   ]
Candidate 2 Name: [   ]   Votes: [   ]

[Add candidate to contest 1][Remove last candidate from contest 1]

[Add contest][Remove last contest]

Audit parameters
Risk limit: [10%   ]
Expected rates of differences (as decimal numbers):
Overstatements.   1-vote: [0.001   ]   2-vote: [0.0001   ]
Understatements. 1-vote: [0.001   ]   2-vote: [0.0001   ]

Starting size
☑ Round up 1-vote differences. ☐ Round up 2-vote differences. [Calculate size] ...

By default, this form assumes that the rate of one-vote understatements and overstatements is one in a thousand (0.001) and that the rate of two-vote understatements and overstatements is one in ten thousand (0.0001). These values are conservative, in my experience, but the choice is up to the user. The larger these rates are assumed to be, the larger the initial sample size will be. Taking a larger initial sample can avoid needing to expand the sample later, depending on the rate of errors the audit actually finds. Avoiding "escalation" can make the audit less complicated.

Considerations for deciding which contests to audit together

The number of ballots the audit must examine before stopping depends on the smallest diluted margin among the contests to be audited together (as well as the risk limit, the errors the audit finds, and so on). All else equal, the larger the diluted margin is, the smaller the sample size needs to be.

Because the diluted margin is the smallest margin in votes divided by the total number of ballots cast in all the contests under audit, auditing small contests together with large contests can be inefficient: Dividing the vote margin in small contests by the number of ballots cast in large contests can make the diluted margin very small, which makes the required sample very large.

Generally, if two contests overlap substantially—for instance, if both are jurisdiction-wide contests—it is more economical to audit them together: Fewer ballots will need to be inspected in all. Conversely, if two contests do not overlap at all, it is more efficient to audit them separately.

Auditing small contests together with (overlapping) large contests generally is not efficient unless the vote margin in the small contests is a substantial fraction of the vote margin in the large contests. That is, auditing small contests that have large percentage margins together with large contests that have small percentage margins can be efficient, but auditing small contests together with large contests that have comparable vote margins generally is not efficient, because it makes the diluted margin of the combination much smaller.

The tool above can be used to explore whether it makes sense to audit a collection of contests together by checking whether the required starting sample size when they are audited together is greater than the sum of the required starting sample sizes when they are audited separately. (If you experiment with different groupings of contests, be sure to change the entry for "Ballots cast in all contests" to reflect only the contests that are to be audited together.)

Hide technical notes.

Random sampling

The next tool helps generate a pseudo-random sample of ballots. To start, input a random seed with at least 20 digits (generated by rolling a 10-sided die, for instance), the number of ballots from which you want a sample, and the number of ballots you want in the sample. Further below, there is a form to help find the individual, randomly selected ballots among the batches in which ballots are stored.

Pseudo-Random Sample of Ballots

Seed: [Input seed here]

Number of ballots: [1000]

Current sample number: [0]

Draw this many ballots: [1]   [draw sample]   [reset]

Ballots selected: ☑ show sequence numbers ☐ show hash values

[text area]

Ballots selected, sorted:

[text area]

Ballots selected, sorted, duplicates removed:

[text area]

Repeated ballots:

[text area]

Hide technical notes.

Find ballots using a ballot manifest

Generally, ballots will be stored in batches, for instance, separated by precinct and mode of voting. To make it easier to find individual ballots, it helps to have a *ballot manifest* that describes how the ballots are stored. For instance, we might have 1,000 ballots stored as follows:

Batch label	ballots
Polling place precinct 1	130
Vote by mail precinct 1	172
Polling place precinct 2	112
Vote by mail precinct 2	201
Polling place precinct 3	197
Vote by mail precinct 3	188

If ballot 500 is selected for audit, which ballot is that? If we take the listing of batches in the order given by the manifest, and we require that within each batch, the ballots are in an order that does not change during the audit, then the 500th ballot is the 86th ballot among the vote by mail ballots for precinct 2: The first three batches have a total of 130+172+112 = 414 ballots. The first ballot in the fourth batch is ballot 415. Ballot 500 is the 86th ballot in the fourth batch.

The ballot look-up tool transforms a list of ballot numbers and a ballot manifest into a list of ballots in each batch. Batch labels should not contain commas. Use a comma to separate each batch label from the number of ballots in that batch (or the range of ballot numbers or the set of ballot identifiers—see below). The manifest should have one line per batch and no empty lines.

For instance, to input the ballot manifest above, you would enter:

```
Polling place precinct 1, 130
Vote by mail precinct 1, 172
Polling place precinct 2, 112
Vote by mail precinct 2, 201
Polling place precinct 3, 197
Vote by mail precinct 3, 188
```

Some jurisdictions number the ballots cast in an election. If all the ballots in an election are numbered sequentially, the numbers on the ballots that contain a particular contest might not be sequential. For instance, an election might cover precincts 1, 2, and 3, but only voters in precincts 1 and 3 are eligible to vote in the contests to be audited with the current sample. In the previous example, suppose that the jurisdiction had stamped numbers on all the ballots, sequentially, so that the ballots from the polling place in precinct 1 were numbered 1 to 130, the vote by mail ballots from precinct 1 were numbered 131 to 302, the ballots from the polling place in precinct 2 were numbered 303 to 414, and so on, as summarized in the following table:

Batch label	ballot range
Polling place precinct 1	1 to 130
Vote by mail precinct 1	131 to 302
Polling place precinct 2	303 to 414
Vote by mail precinct 2	415 to 615
Polling place precinct 3	616 to 812

Vote by mail precinct 3	813 to 994
Provisional ballots for precinct 1	996, 998, 1000
Provisional ballots for precinct 2	997
Provisional ballots for precinct 3	995, 999

Since the ballots already have numbers on them, it makes sense to look them up using those numbers. If we were auditing a collection of contests that included only precincts 1 and 3, the ballots subject to audit would be the 686 ballots labeled 1 to 130, 131 to 302, 616 to 812, and 813 to 994, and 995, 996, 998, and 1000. In this case, the ballot manifest would include *only* the six batches that comprise precincts 1 and 3, not all eight batches; there are only 686 ballots in these batches. Each line in the manifest would consist of a batch label and a range of ballot numbers, where the range is denoted by a colon, or of a batch label and a set of ballot identifiers in parentheses, separated by spaces. Ballot ranges cannot have gaps: There can be no missing numbers within the range for any single batch. (If there is in fact a gap, input the numbers as a set of identifiers, rather than as a range.) Again, separate the label from the range or set of ballot numbers by a comma. The label must not contain any commas, and the range of ballot numbers or set of identifiers must not contain commas. In this example, we would enter the ballot manifest as follows:

```
Polling place precinct 1, 1:130
Vote by mail precinct 1, 131:302
Polling place precinct 3, 616:812
Vote by mail precinct 3, 813:994
Provisional precinct 1, (996 998 1000)
Provisional precinct 3, (995 999)
```

The total number of ballots in the manifest must equal the number cast in the contests that are to be audited together using the sample (686 in this example).

Ballot look-up tool
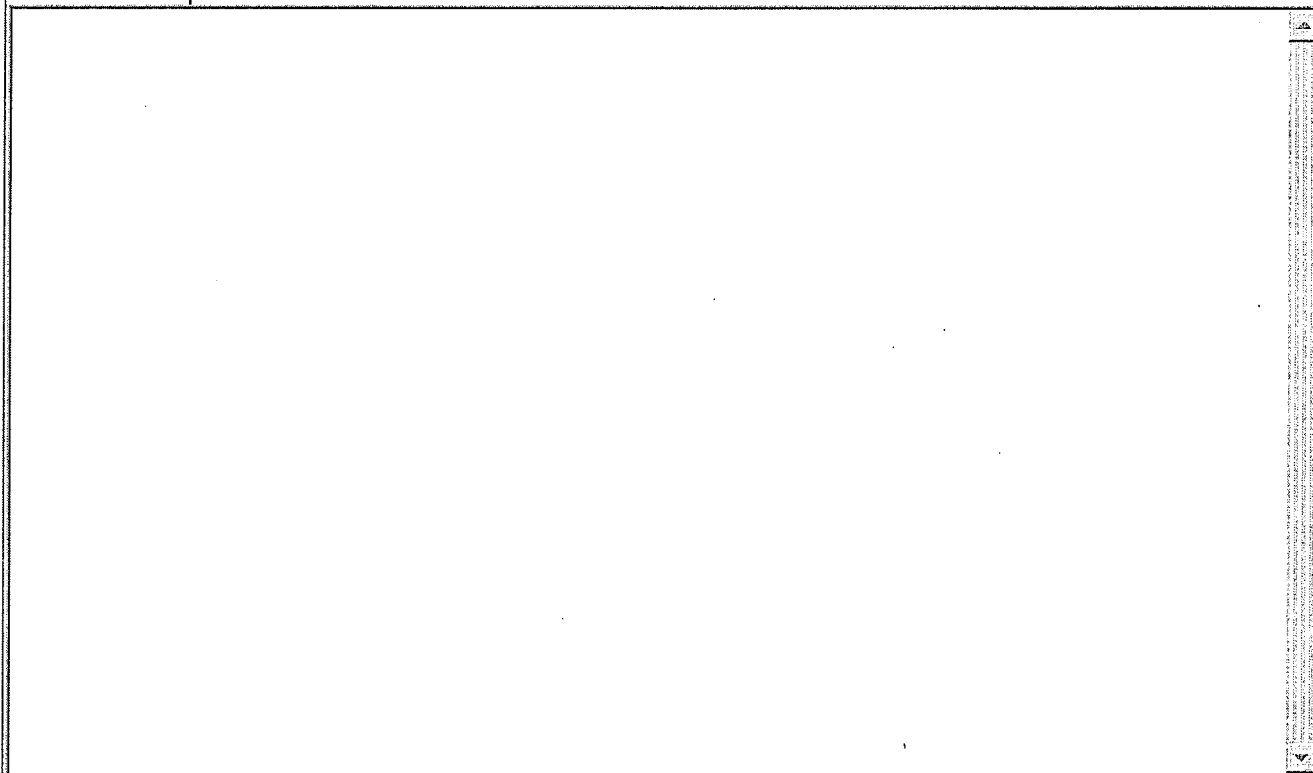Ballot manifest: Each line must have a batch label, a comma, and one of the following:
  (i) the number of ballots in the batch
  (ii) a range specified with a colon (e.g., 131:302), or
  (iii) a list of ballot identifiers within parentheses, separated by spaces (e.g., (996 998 1000)).
Each line should have exactly one comma.

Ballots to look up (separated by commas):

look up ballots

Sorted lookup table:

Should more ballots be audited?

The stopping sample size tool determines whether enough ballots have been examined for the audit to stop, and if not, estimates how many more ballots will need to be audited. The answer depends on the risk limit, the margin, and the differences between the cast vote records and the manual inspection of the ballots in the sample.

Differences matter according to how they affect the *pairwise margin* between some winner and some loser in some contest. Suppose we are auditing a mayoral contest with four candidates, a city council contest that allows voting for up to three of ten candidates, and a simple measure that involves voting either "yes" or "no." The mayoral contest has three pairwise margins: The winner can be paired with each of the three losers. The city council contest has twenty-one pairwise margins: each of the three winners can be paired with each of the seven losers. The measure has but one pairwise margin, since it has only one winner and one loser. In all, there are 3+21+1 = 25 pairwise margins among the three contests being audited.

If there is any difference between the cast vote record and the human interpretation of a ballot, that ballot as a whole may have an understatement of one or two votes, or an overstatement of one or two votes. No matter how many contests on the ballot have differences and no matter how many candidates in those contests have differences, the ballot as a whole has an understatement of one or two votes, or an overstatement of one or two votes, or neither an understatement nor an overstatement. (Of course, the sample might contain many ballots in each of these categories.)

If changing the interpretation of the ballot according to the voting system to make it match the human interpretation of the ballot would widen *every* pairwise margin in *every* contest under audit, that ballot has an *understatement*. If it would widen *every* pairwise margin in *every* contest by two votes, the ballot has a two-vote understatement; otherwise it has a one-vote understatement. If the ballot does not contain every contest under audit, it cannot have an understatement. Since there is an understatement only if changing the machine interpretation of the ballot to match the hand interpretation would increase *every* pairwise margin, understatements are quite rare. Understatements do not call the outcome into question, so they do not increase the sample size required to confirm the outcome.

If changing the interpretation of the ballot according to the voting system to match the human interpretation of the ballot would narrow *any* pairwise margin in *any* contest under audit, that ballot has an *overstatement*. If changing the interpretation of the ballot according to the voting system to match the human interpretation of the ballot would narrow *any* pairwise margin in *any* contest under audit by two votes, that ballot has a two-vote overstatement. No matter how many margins would be narrowed by one or two votes, the overstatement on a ballot is at most two votes, because only the maximum overstatement enters the calculations. If enough ballots have overstatements, the outcome could be wrong, so overstatements increase the sample size required to confirm the outcome.

As an example, suppose that we are auditing five contests simultaneously. Tables 1 and 2 below show two hypothetical CVRs and manual interpretations of the same ballots.

Table 1: Hypothetical CVR and hand interpretation of a ballot that contains four of five contests under audit. Overall, the ballot has an overstatement of 2 votes, because that is the largest overstatement of any margin in any of the contests.

	contest 1	contest 2	contest 3	contest 4	contest 5
CVR	undervote	winner	loser	not on ballot	winner
Hand	loser	loser	winner	loser	not on ballot
discrepancy	1 over	2 over	2 under**	1 over	1 over

**Contest 3 has an understatement of 2 votes *only* if the contest has only two candidates. If there are two or more losers in the contest (and only one winner), this contest has an understatement of only one vote, because only one pairwise margin was understated by two votes; the others were overstated by one vote. Similarly, if there are two or more winners in the contest and only one loser, this contest has an understatement of only one vote. If there are at least two winners and at least two losers, there is no understatement in this contest, because at least one pairwise margin was not affected at all by the discrepancy. Regardless, the *ballot* has an overstatement of 2 votes, because the ballot has an overstatement of 2 votes in contest 2.

Table 2: Hypothetical CVR and hand interpretation of a ballot that contains four of five contests under audit. Overall, the ballot has an overstatement of 1 vote, because that is the largest overstatement of any margin in any of the contests.

	contest 1	contest 2	contest 3	contest 4	contest 5
CVR	winner	winner	undervote	not on ballot	winner
Hand	overvote	undervote	loser	loser	not on ballot
discrepancy	1 over	1 over	1 over	1 over	1 over

To determine whether the audit can stop, enter the number of ballots in the sample with overstatements or understatements of one or two votes, then click "Calculate." If the sample size is not large enough to confirm the outcome based on the number of differences of each type observed, the value of "If no more discrepancies are observed" will be larger than the current sample size, and the value of "Estimated additional ballots if difference rate stays the same" will be greater than zero. That value is the estimated number of additional ballots that will need to be audited to confirm the outcome at the desired risk limit, assuming that the rate of one and two-vote understatements and overstatements does not change as the sample expands.

Stopping sample size and escalation
Ballots audited so far: 0

1-vote overstatements: 0   Rate:
2-vote overstatements: 0   Rate:
1-vote understatements: 0   Rate:
2-vote understatements: 0   Rate:

Estimated stopping size

| Calculate | Audit incomplete

If no more differences are observed: ...
If differences continue at the same rate: ... .
Estimated additional ballots if difference rate stays the same: ...

If the contest being audited has more than two candidates or positions, the calculation above can be very conservative if overstatements do not affect the margin between the winner with the fewest votes and the loser with the most votes. The formula above can be modified to take that into account.

Hide technical notes.

The stopping rule implements the following formula from AGI:

stopping sample size = $-2g(log(a) + o_1 log(1-1/(2g)) + o_2 log(1 - 1/g) + u_1 log(1+1/(2g)) + u_2 log(1+1/g)) / m)$

with m equal to the diluted margin, a equal to the risk limit, o_1 the number of 1-vote overstatements in the sample, o_2 the number of 2-vote overstatements in the sample, u_1 the number of 1-vote understatements in the sample, and u_2 the number of 2-vote understatements in the sample. In the tool below, g = 1.03905, but any value greater than one can be used. For g = 1.03905, a two-vote overstatement increases the sample size by five times as much as a one-vote overstatement.

The estimates based on differences continuing to occur at the observed rate are based on the method described above for estimating the initial sample size, including the method of rounding the expected number of differences of each type.

P.B. Stark, statistics.berkeley.edu/~stark. http://statistics.berkeley.edu/~stark/Java/Html/auditTools.htm Last modified 23 July 2012.

Appendix C

Audit Step-by-Step Instructions

Working Document
Post-Election Risk-Limiting Audit Pilot Program 2011-2012
Step-by-Step Instructions for Conducting Risk-Limiting Audits

Step 1: Provide Public Notice and Educate the Public

The elections official must provide a five-day public notice of the date, time, and place of the post-election risk-limiting audit. The form and method of public notice may be similar to the notice provided for the 1% manual tally, as required by Elections Code (EC) section 15360. Elections officials should share with the public the "Audit Tools" website and the draft Step-by-Step Instructions created for the pilot program, which describe the audit model and the statistical calculations behind the model.

Step 2: Secure the Audit Trail

For purposes of risk-limiting audits, the county's official canvass procedures, adopted and implemented under EC section 15003, must include the following:

1. Vote-by-mail (VBM) ballot security procedures, as specified by EC sections 3019 and 15101 including:

    a. Secure returned VBM ballots: Until 29 days prior to the election, the elections official must keep all returned VBM ballots in a secure room[1]. Beginning 29 days prior to the election, all VBM ballots awaiting processing must be held in a secure room. The elections official must keep track of the number of ballots received. (best practice)

    b. Verify VBM envelopes: Beginning 29 days prior to the election, the elections official may begin processing returned VBM envelopes.

        i. Verify signature on outside of envelope by comparing it to the signature on the voter registration form; and

        ii. Update voter's history file.

    c. Remove VBM ballots from envelopes: Beginning 7 days prior to the election, the elections official may begin processing VBM ballots.

        i. Remove ballots from signature-verified envelopes and prepare the ballots for machine tally; and

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[1] A "secure room" must be locked. Video monitoring of the room is recommended. A two-person rule for access to the room is recommended, similar to the two-person rule below for ballot transport of ballots to the elections office.

ii.   Duplicate damaged ballots.[2]

d. Scan VBM ballots: Beginning 7 days prior to the election, the elections official may machine tally the votes on VBM ballots.

      i.   VBM ballots that have been processed and prepared for the machine tally must be batched and brought to a secure room to await the machine tally; (best practice)

      ii.   As with the tallying of other ballots, quality control procedures, such as attaching a batch report to each batch of scanned VBM ballots, must be established and followed; (best practice)

      iii.   VBM ballots that have been machine tallied must be returned to a secure room; and (best practice)

      iv.   Results of any VBM ballot tabulation may not be accessed, examined, or released prior to the close of the polls on election day. EC section 15101.

2. Polling place ballot security procedures, as specified in EC sections 15201 and 15202, including:

a. Seal[3] the container used to transport voted ballots;

b. Ensure that the precinct number is designated on the ballot container;

c. Certify, sign, and seal polling place materials packages and envelopes; and

d. Deliver the ballot container and packages to the elections official. At least two precinct board members must travel together to make the delivery. The ballot container and packages must remain in the exclusive possession of the two precinct board members until delivered.

3. Canvass security procedures, including ballot accounting and reconciliation tasks, as specified in EC sections 15302 et seq. and 15370, including:

a. Inspect all materials and supplies returned by poll workers;

b. Reconcile[4] the number of signatures on the Roster with the number of ballots recorded on the ballot statement;

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[2] If a duplicate ballot is selected for the post-election audit, both the original ballot and the duplicate ballot must be viewed to ensure the duplicate reflects the voter's intent. Therefore, the originals of duplicate ballots should be stored in a manner that allows for easy retrieval.

[3] The elections official must have a protocol for affixing, checking, removing and replacing seals. The protocol must include steps that must be taken if a broken seal is discovered.

c. Reconcile the number of ballots counted, spoiled, canceled, or invalidated with the number of ballots recorded by the voting system;

d. Implement chain-of-custody procedures for voted ballots; (best practice)

e. Seal ballots after counting is complete;

f. Implement quality control measures, such as verifying that precinct subtotals sum to overall totals tabulated by the voting system; and (best practice)

g. Report final canvass results to the public[5], the county's governing board, and the Secretary of State.

4. Public observation procedures, including:

a. Vote-by-mail: The processing and counting of VBM ballots, both prior to and after the election, shall be conducted as required by EC section 15104, as follows:

   i. Elections officials must make VBM processing and counting open to the public;

   ii. Elections officials must provide 2-day public notice of the dates, times, and places where VBM ballots will be processed and counted;

   iii. Elections officials must allow observers to challenge the manner in which VBM ballots are handled, processed and counted. The elections official must document and share with the public all challenges;

   iv. Elections officials must allow observers "sufficiently close access" to enable them to observe the VBM ballot return envelopes and signatures and challenge procedures, including signature verification, duplication of ballots, securing of VBM ballots to prevent tampering; and

   v. Observers may not touch or handle the ballots.

b. Polling Place: The precinct board must conduct polling place security procedures in the presence of the public, as required by EC section 15201.

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[4] The elections official must have a protocol to address instances where the number of voted ballots does not match the number of signatures or the voting system's record of the number of ballots counted.
[5] Publishing results on the county website is recommended.

c. Canvass: All proceedings at the central county place, or places, must be open to the view of the public. Observers may not touch any ballot container. Access to the area where electronic data processing equipment is operated may be restricted. EC section 15204.

Step 3: Finish and Publish the Official Canvass Results

If the voting system can produce ballot-level results (i.e., cast vote records), publish ballot-level results in addition to precinct- and contest-level results.

Step 4: Conduct a Transparency Scan and Tally of the Ballots

Skip this step if the county has a voting system that can produce ballot-level results, i.e. a cast vote record (CVR) for each ballot that can be associated with the corresponding physical ballot.

To be efficient, risk-limiting audits must be conducted at the ballot level – not the precinct level. California's 1% manual tally law (EC section 15360) requires elections officials to select and hand tally all of the ballots from 1% of all precincts. In contrast, efficient risk-limiting audits involve selecting and interpreting individual ballots to verify overall election outcomes.

Since current vote tabulation systems cannot produce a record of the votes tallied from each ballot (called a "cast vote record" or "CVR") that can be associated with each ballot, the elections official conducts a "transparency scan" of all ballots in the contest(s) to be audited.

Software has been developed (which will be licensed as free, open-source software in the future) for use in the California Secretary of State's post-election risk-limiting audit pilot program that can be configured to create CVRs from ballots, given a detailed description of each ballot style in the election.

Transparency scan and tally procedures:

1. Public Notice: Provide a five-day public notice of the date, time, and place of the transparency scan and tally.

2. Public Observation: The transparency scan and tally must be open to the view of the public.

3. Public Education: The elections official should speak to public observers to explain the audit process, the goal of the audit (confirm winners), and the need for a transparency scan due to current voting system constraints.

4.   Ballot security: Ballots should be held in a secure location before and after the scanning process. Observers may not touch or handle ballots.

5.   Configure transparency software: In order to configure the transparency software used in the pilot, the auditor will need: 1) a sample ballot; 2) a pdf copy of each ballot style created by the voting system, with camera-ready art for ballot printing – i.e., auditors need a copy of the files provided to your ballot printer; and 3) test scans of blank ballots and marked ballots, using the scanner(s) that will be used in the audit. The test scans should be either 200 dpi grayscale or color, with nearly lossless compression, such as nearly lossless .tiff files. Auditors will use the files to calibrate the transparency software, so that the software can interpret the marks on ballot images as votes.

6.   Use a commercial off-the-shelf (COTS) scanner/copier/fax machine to scan the ballots cast in the contests to be audited: The scanner must be capable of producing 600dpi .jpg color or 200dpi lossless tiff color images of each ballot scanned. Black and white images are not sufficient, but grayscale may be sufficient, depending on whether elections staff have "enhanced" voter marks using a highlighter.

7.   Scan ballots in batches. Create one digital image file for each ballot scanned, either in 600dpi .jpg color format or in 200dpi lossless tiff color format.

8.   Keep ballots in the order in which they were scanned and create labeled stacks of scanned ballots, placing markers every 50 ballots in each batch. This allows individual ballots selected during the audit to be retrieved efficiently. Create a ballot "manifest" that lists how scanned ballots are organized (labeling of stacks, listing the number of ballots in each stack). Conduct quality control measures to ensure that each stack of ballots contains the number of ballots listed in the manifest.

9.   Tally the votes on the ballot images and create a cast vote record (CVR) for each ballot image. Auditors will use the transparency software created for the pilot program to accomplish this task. The software interprets voters' marks from each ballot image and associates that interpretation (CVR) with the corresponding physical ballot. Auditors will do a human eye interpretation of ballots with marks flagged as questionable, for example ballots with light marks or marks outside of voting targets.

10.   Check the transparency tally results against the county's voting system results. If the transparency tally and the official results both show the same winner(s) for each contest, the risk-limiting audit may proceed. (The risk-limiting audit confirms winners, not exact vote totals.) If the results do not show the same winner(s), then the elections official should make sure all ballots were included in both tallies – the voting system tally and the

transparency tally – and undertake any other quality control measures deemed necessary. If the winners found by the transparency scan still differ from the official voting system results for any contest, then all the ballots for that contest must be counted by hand.

11.   Explain to public observers that since both systems show the same winners, an audit of either system confirms _transitively_ that both systems show the right winners or it corrects both outcomes.

12.   Commit to the transparency tally results: There are several ways to preserve a copy of the final transparency tally to prove to the public that the results are untouched and unchanged before, during, and after the audit. The preferred method is to publish CVRs on a website using a digital signature key. Alternative methods are: burn a DVD copy of the CVRs and upload the DVD to a laptop with no Internet connection; use cryptographic methods to secure a copy of the CVRs; or, for example, CD copies of the CVRs may be provided to election observers to use in observing the audit, which will compare individual physical ballots with the corresponding CVR. The elections official should commit to the transparency tally results in the presence of the public.

Step 5: Determine the Size of the Initial Audit Sample

For the "super-simple" audit model, the initial sample size depends on the "diluted margin," which is the margin of victory[6] in votes divided by the number of ballots cast. This differs slightly from usual ways of calculating the margin, because it divides by the number of ballots rather than the number of valid votes. Dividing by the number of ballots takes into account that the vote tabulation system might confuse an undervote or overvote for a valid vote, or vice versa. The super-simple method starts with an initial sample of individual ballots and either stops or escalates, depending on the number and nature of errors found in the initial sample.

Go to the Post-Election Audit Tools Website and follow the instructions to enter contest data. The elections official may develop software tools based on the audit model. For purposes of the pilot program, the risk limit setting should be left at 10%: http://statistics.berkeley.edu/~stark/Vote/auditTools.htm

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[6] "Margin of victory" is the number of votes between the winning candidate with the fewest votes and the losing candidate with the most votes. For a contest involving a measure, it is the number of votes between the "Yes" and threshold for passage (e.g., 50% + 1 or 66 2/3% +1).   The margin of victory for contests that include more than one jurisdiction is the _overall_ margin of victory in the contest, not the margin of victory within the jurisdiction.

Illustration: For *zero* expected over/understatements, the math is simple. The number 4.8 divided by the diluted margin provides the sample size:

Diluted Margin	Equation	Initial Sample Size (in ballots)
50%	4.8/.5	10
40%	4.8/.4	12
30%	4.8/.3	16
20%	4.8/.2	24
10%	4.8/.1	48
5%	4.8/.05	96
2%	4.8/.02	240
1%	4.8/.01	480
.5%	4.8/.005	960

Step 6: Randomly Select Individual Ballots for the Sample

The elections official may be able to use the same random selection method used for the 1% manual tally. Alternatively, the elections official may use the following method:

1. Ask public observers to roll eight 10-sided dice to generate a "seed" number for a public-source pseudo-random number generator.

2. Enter the seed on the "Random Sampling" section of the Audit Tools website: http://statistics.berkeley.edu/~stark/Vote/auditTools.htm

3. Enter the number of ballots in the contest(s) to be audited.

4. Click "draw sample" to select ballots.

5. Each random number corresponds to one ballot. For example, if there are 1,000 ballots total in 5 equal stacks, then the ballots in Stack 1 can be ballots 1 through 200; Stack 2 can be ballots 201 through 400; Stack 2 can be ballots 401 through 600, etc. If ballot number 341 is randomly selected, then the elections official can pull that ballot by counting into Stack 2. As noted above, the instructions recommend placing a marker every 50 ballots in the stacks to facilitate retrieving individual ballots.

Step 7: Compare Physical Ballots in the Sample with Corresponding CVRs

Because risk-limiting audits involve comparing individual ballots to the voting system results for each ballot, the audits do not involve a "tally" or count in the traditional way the 1% manual tally is conducted. That is, the 1% manual tally ballot counters are assembled to tally entire precincts of ballots and compare the hand tally totals to the totals produced by the voting system for the same precinct.   For risk-limiting audits, a human eye interpretation of each ballot is compared to the CVR for that ballot as recorded by the voting system, so ballots are not "tallied" or counted up and totaled.

Compare each ballot in the sample with its CVR as follows:

1. Retrieve the ballots chosen for the sample. Those designated to retrieve ballots should not have access to the CVRs for the ballots they retrieve in order to ensure the integrity of the audit.

2. Retrieve the CVR for each ballot (created in the transparency tally) and determine whether the CVR matches a human eye interpretation of the votes on the corresponding ballot.   Existing methods used for the 1% manual tally may be used to the extent applicable, including the rules for determining voter intent.

3. Ensure public observers have the opportunity to compare the CVR and the corresponding ballot to verify whether the CVR matches a human eye interpretation of the voter's intent.

4. Document and share with the public any differences found between the hand tally and the software tally of the votes on each ballot.

5. Document and share with the public any instances, in which one or more public observers disagreed with the hand tally interpretation of a ballot or with the audit procedures.

6. Establish procedures to handle observer challenges to the audit or audit procedures. The public must be allowed to observe, verify and point out procedural problems in all phases of the audit but without interfering with the process.

Step 8: Escalate If Necessary

Depending on the number and type of overstatements and understatements found in the initial sample, the audit may need to be expanded to look at more ballots. To determine how many more ballots should be hand tallied, if any, assuming a similar rate of over/under statements:

1. Go to the Post-Election Audit Tools Website and follow the instructions to determine whether escalation is necessary.

2. If escalation is necessary, the elections official should explain to the public that the audit may lead to a full hand count if significant differences persist.

Step 9: Finish and Publish Results

1. Complete the audit by releasing the results to the public and sending a brief report to the Secretary of State, which includes:

    a. The time it took to conduct the audit, with a breakdown of the time needed to scan ballots compared to the time needed to conduct the audit itself (random selection and manual tally);

    b. The cost of the audit, with a breakdown of both parts: ballot scan and audit; and

    c. The cost of the 1% manual tally for the same election.

Appendix D

Ballot Accounting Best Practices

<p style="text-align:center">**Ballot Accounting Best Practices**</p>

<p style="text-align:center">**California Secretary of State Post Election Audit Pilot Program**</p>

<p style="text-align:center">**Developed in Collaboration with Elaine Ginnold, Marin County Registrar of Voters**</p>

<p style="text-align:center">**Working Document**</p>

This document presents an outline of "best practices" for county elections officials, as a prerequisite for the post election audit process. Each section represents a certain point in time, in which specific tasks should be undertaken according to the California Elections Code. Each task is accompanied by a brief explanation of why it is important, followed by a description of how the task may be completed. The procedures described in this document are based on a model followed by Marin County, California. California Elections Code (EC) Sec. 14400 et seq. outlines procedures for accounting for counted and uncounted ballots.

Vote by Mail (VBM) Tasks Before Polls Close

Process VBM Ballots. Sections 15100-15112 of the California Elections Code outline specific rules and procedures to be followed regarding processing VBM ballots. Before VBM ballots are processed (opened) each one must be credited to the voter who returned it and the voter's signature is compared with the signature on the registration file. Elections officials should compare the number of ballots returned with the number issued periodically to see what percentage of issued ballots were returned. The VBM crediting/signature checking procedures are not covered in this document.

The processing of VBM ballots begins 29 days before the election, but the return envelopes can't be opened until seven business days prior to the election. Guidelines for opening and counting VBM ballots are outlined below:

1) Group envelopes into batches of 25. Batching in groups of 25 makes it easier for the workers to keep track of the ballots as they are processing them. Remove from the stack any that have not been date-stamped and send to supervisor for verification. Add more ballots from the ballot tray to keep the total number in the batch equal to 25. This process occurs daily beginning 7 working days before the election. It is rare to find a ballot without a receipt date-stamp.

   Note: Marin tries to keep individual precincts together in a batch, but this is not always possible. Other counties may not batch by precinct. Marin uses a sorting machine connected to its EIMS system which credits voters who return their VBM ballot and stamps a receipt date on the envelope. If there is no date-stamp on the ballot it means that the voter has not yet been credited for returning a ballot. If you try to balance the ballots received with the ballots counted, you will not balance unless all voters who returned a ballot have been credited.

2) Place each batch with voter information face down and remove the ballots from the envelopes. Unfold ballots one at a time and check for damage or unusual marks. Place damaged, questionable ballots that are not machine readable in a "Duplication" box.

3) Log the following information for each batch: voting precinct; total number of envelopes received; the number of questionable or "damaged" ballots and the number of ballots sent for counting.

4) Count the number of ballots to be duplicated for each batch, compare totals on the batch log and send to the Duplication Board for processing.

5) Combine 2 batches of 25 ballots to be counted into one batch of 50. If the final batch does not equal 50, mark the number of ballots in the upper right corner of the batch. This serves as a control number for the Scanner Operator. Store all "to-be-counted" batches in boxes marked "ballots to be counted."

   Note: Smaller batches are easier for workers to keep track of. GEMS can count batches of any number.

6) Scanner Operator verifies the number of ballots scanned with the number of ballots in each batch scanned (50 or some other number). If the number of ballots in a scanned batch does not match the number on the batch sent for counting, the operator must recount the number of ballots in the batch and, if it is different from the number scanned, rescan the batch.

7) When the last VBM ballot has been counted, balance the number of ballots returned as good with the number of VBM ballots counted. Account for the difference. This step is very important to do as it can reveal uncounted batches, batches counted twice, and ballots that weren't credited.

   Note: During this step, Marin County rechecks the number of counted ballots in each batch reported by the tabulation program with the number of ballots shown as counted in the manual batch log. It may recheck batches of counted ballots to make sure they were all credited.

Tasks To Complete After Polls Close

The following poll closing tasks are required and outlined in sections 14400-14421 of the California Elections Code.

1) **Account for all used and unused precinct ballots.**

   a. This task is designed to ensure that the total number of used and unused precinct ballots at the close of polls matches the total number of ballots poll workers began with. Types of used and unused ballots include: unused leftover ballots, voted ballots, spoiled ballots, voted ballots that were not counted because they did not go through the scanner, and provisional ballots.

   b. To complete this task, poll workers count each category of ballots and write the number on the Ballot Statement. VBM ballots are not part of the ballot supply for the precinct; they are accounted for separately. If the numbers don't match, the poll workers try to balance. However, if they are unable to balance after two

attempts, they are instructed to pack everything up and return the materials to the receiving center. After election day, elections office staff review all Ballot Statements during the Roster balancing process. Staff will investigate and find an explanation for the numbers that don't balance.

Note: Marin County seals the unused (leftover) ballots in a container. In Marin, precinct board members write the number of unused ballots on the seal and on the Ballot Statement on the front cover of the Roster. Under California law, precinct board members are required to render unused ballots unusable by doing one of the following: 1) marking the unused ballots with an X across the front; 2) tearing or cutting the unused ballots; or 3) placing the unused ballots in a special container with a tamperproof seal with spaces to enter the total number of unused ballots and serial numbers of the unused ballots. All members of the precinct board must sign the seal.

2) **Ensure that the number of signatures on the Roster matches the total number of voted and voted uncounted ballots.**

    a. County procedures to complete this task may differ depending on whether or not provisional voters sign the Roster, as the number of signatures on the Roster is compared to the number of *voted ballots* whether they are counted or uncounted. After the polls close, poll workers count the number of provisional ballots issued at the polling place and put them in a separate container and seal it. They write the number of provisional ballots on the seal and on the Ballot Statement in order to account for all provisional ballots issued at the polling place. After election day, elections office staff open each container, count the number of provisional ballots inside, and compare that number with the number the poll workers wrote on each seal. If the two compared numbers don't match, staff research and resolve the difference.

Note: Only voters who have voted will sign the Roster. The Roster includes the signatures of voters who voted ballots that did not go through the scanner (voted, uncounted ballots). The Roster does not include the signatures of voters who voted provisionally because these ballots have not been counted. In Marin, provisional voters sign on a separate "provisional log" attached to, but not part of, the main Roster.

Tasks To Complete Upon Checking In Voting Equipment And Supplies After Polls Close

Sections 14430-14435 of the California Elections Code explain the necessary procedures for preparing supplies and voting equipment for return to elections officials after the polls close.

While each jurisdiction has different facilities and different voting systems, the steps below generally will apply:

1) Voting Equipment: Check that security seals on the voting equipment are intact. This task is important to ensure that the seal has not been tampered with. A recommended approach is to scan the unique serial number on the seal when the seal is applied and later

compare with the scanned number with the actual number on the same seal before it is broken. This practice provides assurance that the seal was not tampered with and re-applied to appear unbroken. Developing an application that takes a photo, scans the seal number, and uploads both items into a database, can be an effective tool to efficiently compare the seal before and after.

Note: In Marin, the unique serial number on the seal on the Accuvote memory card door is checked when it is returned to the Central Count Center on election night, to see if the actual seal shows the same number that was on the compartment when the machine was delivered to the poll worker. Elections officials then remove memory cards from Accuvote equipment and place the memory cards in a security pouch. Two staff members take the pouch with memory cards to the vote count room where the results on the cards are uploaded into the GEMS vote count program. The GEMS vote count program does not allow memory cards to be uploaded more than once.

2) Ballots, Rosters, Etc.: For security purposes, at least two staff members should be assigned to log and check-in voted ballots – not only to ensure the process runs smoothly, but also to ensure that each task is double-checked. Working together, the staff members assigned to this task ensure that VBM ballots, provisional ballots, the Roster and Index are returned from the precincts and the seals on the respective containers are intact.

Tasks To Complete During The Canvass Period After The Election

1) **Account for VBM ballots returned from polls.**

   a. The purpose of this task is to ensure that the number of VBM ballots returned matches the number reported by poll workers on the seal of each container.

   b. To complete this task, elections officials should work with one polling place container at a time and record the total number returned from the polls. Physically count the ballots in each container and compare the total with the number of ballots that the poll worker wrote on the seal. If the amounts do not match, record the differences as well as the nature of the differences. Report findings to ensure an accurate and transparent auditing process, and make necessary corrections.

   Note: In Marin, poll workers follow a set of Closing the Polls Procedures, which include accounting for voted and unvoted ballots and writing the numbers of each type of ballot on the seal of each container. Elections office staff double-check the poll workers' proper completion of this task as the ballots are returned and the respective containers are opened, the ballots are counted, and the number of ballots are checked against the number written on the seal for each container and on the Ballot Statement at the polling place.

2) **Account for provisional ballots returned from polls.**

a. The purpose of this task is to ensure that the number of provisional ballots matches the number reported on the Ballot Statement from the Roster and on the seal of the container.

As noted above, in Marin County, to ensure chain of custody, the number of ballots in each container is written on a tamperproof seal placed on each container by the poll workers before ballots are delivered to the Central Count Center. The seal on the container and the number of ballots poll workers record on the seal is verified by elections office staff the day after the election.

b. To complete this task, work with one polling place container at a time, one precinct at a time. Record the total number returned from the polls. Physically count the ballots, compare total with the total on the seal, and record and report any differences.

3) Balance the Rosters.

a. The purpose of these procedures is to ensure that every eligible ballot is counted accurately and that the number of voted ballots matches the number of voters voting. Guidelines are outlined in sections 15150-15304 of the California Elections Code.

   i. **Reconcile the number of ballots counted in the precinct with the number on the Statement of Vote issued by the office on election night.**

      1. Compare the number of voted ballots on the Accuvote tape from each precinct with the number of ballots counted for the precinct on the Statement of Vote (SOV). Investigate any differences.

      2. Compare the number of ballots issued to the precinct inspector before election day with the total in each precinct after the polls closed. Investigate any differences.

      3. Compare the number of voters that signed the Roster with the total number of voted and voted, uncounted ballots. Investigate any differences.

      Note: the purpose of balancing the Roster is to resolve any differences between the numbers the poll workers have recorded on their Ballot Statements and the actual numbers. In fact, most of the differences are from poll worker errors in arithmetic made after a 14 hour day at the polls.

   ii. **Credit voters for voting.**

      1. The process for each county will be different depending on the system they use. For counties using the DFM system, this process must be completed prior to checking the provisional ballots.

Note: In Marin County, the Roster pages are scanned, exceptions are checked and the "Who Voted Report" is produced. The county then can check provisional and 7-day ballots. After provisional and 7-day ballots are checked, the county runs and checks the "Who Voted Twice Report." Any voters who voted twice are referred to the District Attorney.

   iii. **Process and count VBM ballots returned at the polls.**

   iv. **Process and count provisional ballots.**

   v. **Count the ballots for each precinct and record. Account for damaged ballots and either duplicate or enhance them to prepare for counting.**

1. Duplicate damaged ballots: In teams of two, sort damaged ballots by precinct and match the precinct numbers with the corresponding blank ballots. Assign a matching serial number to each damaged and blank ballot. Stamp "Void" in red ink on the damaged one and "Duplicate" on the blank one. Log the reason for each of the duplicated ballots. Sort by precinct and send for counting.

   Note: Voided damaged ballots should be kept together in the event of a recount, when observers may request to see the original damaged ballot.

2. To enhance ballots, work in teams of two and ensure that the voter's original mark is visible under the enhancement. The team must be able to determine voter intent. Send for counting.

Note: California law (EC 15210) permits enhancement of ballots to ensure the voting system properly captures votes, as long as the voter's original mark is preserved under the enhancement.

   vi. **Count write-in votes.**

1. In order to properly count write-in votes, each county must adhere to a couple of rules. First, candidates must have filed nomination papers (EC Sec 8600) and anyone on the qualified list provided by the Registrar of Voters should be counted. Second, the vote should be counted even if the oval is not filled in, but not if the name of the candidate is indicated by a sticker or if the contest has been overvoted.

2. For the central count process, elections officials collect and count all the ballots in a central location. Counted ballots with a write-in vote should be placed in a separate "write-in" box and write-in candidates tallied separately. Note next to candidate's name whether he/she is qualified (Q), not qualified (NQ), or overvoted

(OV). Compare total counted to total write-ins reported on the SOV, to ensure all of the write-ins have been accounted for.

3. For precinct ballots, ensure total write-ins match the number recorded on the SOV before counting votes. Note whether the candidate is qualified (Q), not qualified (NQ), or overvoted (OV).

Note: The ballot manifest for precinct ballots is the SOV as described above. Using the SOV, elections officials check to ensure that the total number of ballots in the SOV matches the total number of physical ballots stored, and to make sure all of the write- in votes are accounted for in each precinct. Elections officials must keep a record of how ballots are stored (i.e., how many groups of ballots there are and how many ballots are in each group of ballots to be stored.)

vii. **Conduct the one percent manual tally.**

1. Use a random number generator or some other random method to choose a sample of 1% of precincts after ballots have been counted. Count the ballots for each sample precinct and compare tallies of each candidate to actual results. Vote-by-mail ballots can be tallied by batches in a number equal to 1% of the votes.

Note: Elections officials must investigate, resolve and report on each difference found in the 1% manual tally.

viii. **Report results.**

1. California law, EC 15360(e), requires county elections officials to report on the results of the 1% manual tally in the certification of the official canvass, which is provided to the Secretary of State. The report must identify any differences found between the machine count and the manual tally and include a description of how each difference was resolved.

ix. **Store election materials for the time period required by law.**

1. Federal and state laws require elections materials to be maintained for 22 months.

Appendix E

OpenCount Ballot Tally Software
https://code.google.com/p/opencount/

opencount
Tools to count votes on paper ballots

| Search projects |

Project Home | Wiki | Issues | Source

Summary People

Project Information

Project feeds

Code license
New BSD License

Labels
election, voting, audit

Members
goo...@web.dwdw.me,
shiao...@gmail.com,
EricKim555@gmail.com,
nicholas...@gmail.com
8 committers

OpenCount is designed to assist with post-election audits of elections conducted using optical-scan paper ballots. It enables risk-limiting ballot-level audits, which are an innovative, efficient, and cost-effective way to provide transparency and check the accuracy of election results. OpenCount has been used to support the California Secretary of State's Post Election Risk-Limiting Audit Pilot Program. In our research, we have applied OpenCount to ballots cast in elections held in ten California counties.

OpenCount helps count a set of paper ballots that were cast in an election. If you provide scanned images of all of the paper ballots, the OpenCount software will you identify all votes on the ballots and counts and tallies the votes. OpenCount currently supports optical-scan ballots associated with Diebold (Premier), ES&S, Hart, and Sequoia ballot styles.

The OpenCount system was developed as part of research conducted by researchers at UC Berkeley and UC San Diego, including Kai Wang, Eric Kim, Nicholas Carlini, Theron Ji, Arel Cordero, Andrew Chang, George Yiu, Ivan Motyashov, Daniel Nguyen, Raji Srikantan, Alan Tsai, Keaton Mowery, David Wagner, and others. It was partially funded by the US National Science Foundation and by the TRUST center; we gratefully acknowledge their support. We also thank the California Secretary of State, election officials at Alameda, Leon, Madera, Marin, Merced, Napa, Orange, San Luis Obispo, Santa Cruz, Stanislaus, Ventura, and Yolo counties, and Clear Ballots for data and assistance.

To try out the OpenCount software, see our Installation instructions, then follow our tutorial to learn how to use the software.

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Appendix F

Elections Code section 19209, added by Chapter 602, Statutes of 2013
SB 360 (Padilla), Chapter 602, Statutes of 2013

ELECTIONS CODE - ELEC
DIVISION 19. CERTIFICATION OF VOTING SYSTEMS [19001 - 19386]
(Heading of Division 19 amended by Stats. 2013, Ch. 602, Sec. 1.)

CHAPTER 3. Certification of Voting Systems [19200 - 19275]
(Heading of Chapter 3 amended by Stats. 2013, Ch. 602, Sec. 9.)

ARTICLE 1. Procedures for Certification of Voting Systems [19200 - 19219]
(Heading of Article 1 amended by Stats. 2013, Ch. 602, Sec. 10.)

19209.
(a) For purposes of this section, the following terms have the following meanings:

(1) "Commercial off-the-shelf" means mass-produced, readily available hardware devices, including card readers, printers, or personal computers, and their firmware or software products, including operating systems, programming language compilers, or database management systems.

(2) "Incorrect in part" means a full manual tally of the votes cast on the pilot system would reveal rates of error in the pilot system tally that, if extrapolated to the entire contest, would alter the electoral outcome.

(3) "Partial risk-limiting audit" means a procedure that guarantees a large minimum chance of a full manual tally of the votes cast on the pilot system if the electoral outcome is incorrect in part.

(4) "Risk-limiting audit" means a procedure that ensures a large, predetermined minimum chance of requiring a full manual tally whenever a full manual tally would show an electoral outcome that differs from the outcome reported by the voting system for the audited contest.

(b) The governing board, without formally adopting a voting system, may provide for the experimental use of the voting system in a pilot program held in one or more precincts at a single election or, in the case of a special election, the special primary election and the special general election, if the voting system complies with either of the following:

(1) The voting system is certified or conditionally approved prior to its experimental use.

(2) The voting system meets all of the following requirements:

(A) Uses only software and firmware with disclosed source code, except for unmodified commercial off-the-shelf software and firmware.

(B) Meets the requirements of subdivision (b) of Section 19101.

(C) Meets the requirements of the regulations adopted by the Secretary of State pursuant to subdivision (g).

(D) Implements risk-limiting audits.

(c) A voting system that meets all of the requirements of paragraph (2) of subdivision (b) need not be certified or conditionally approved prior to its experimental use in a pilot program if the number of voting system units deployed in the pilot program is limited to the number necessary to test and demonstrate the capabilities of the voting system in a limited number of precincts or locations, including a prudent number of reserve units to ensure that sufficient working units will be available to conduct the pilot program. In no event shall the number of voting system units exceed 50 percent of the estimated number of units that would be required for full deployment of the voting system at every polling place and early voting site in a statewide election throughout the jurisdiction. Capabilities that may be taken into account in determining the number of voting system units reasonably necessary to test and demonstrate the capabilities of the voting system include, but are not limited to, all of the following:

(1) The capability of the voting system to accommodate voting in all languages in which the jurisdiction is required to provide ballots under applicable state and federal laws.

(2) The capability of the voting system to accommodate voting by persons with a broad range of physical and cognitive disabilities, as required by applicable state and federal laws.

(3) The current and projected number of voting-eligible individuals in the jurisdiction.

(4) The geography and distribution of the population in the jurisdiction.

(d) No later than nine months before the election at which the pilot program of a voting system is proposed to be conducted, the governing board shall submit to the Secretary of State a plan for the pilot program. The Secretary of State shall approve or reject the plan no later than three months after receipt of the plan.

(e) The votes cast on a voting system during a pilot program pursuant to subdivision (b) shall be subject to risk-limiting audits.

(1) For each contest conducted entirely on the pilot voting system, the jurisdiction conducting the pilot program shall conduct a risk-limiting audit with at least a 90-percent chance of requiring a full manual tally of the contest whenever a full manual tally would show an outcome that differs from the outcome reported by the pilot voting system.

(2) For each contest conducted partially on the pilot voting system, the jurisdiction conducting the pilot program shall conduct a partial risk-limiting audit of the portion of the contest in which the voters cast their votes on the pilot voting system, with at least a 90-percent chance of requiring a full manual tally of all votes cast using the pilot voting system whenever the outcome is incorrect in part.

(3) (A) If a risk-limiting audit of a contest leads to a full manual tally of all of the ballots cast in the contest, then the contest outcome according to that manual tally shall become the official result.

(B) If a partial risk-limiting audit of a contest leads to a full manual tally of the ballots cast using the pilot voting system, the vote counts according to that manual

tally shall replace the vote counts reported by the pilot voting system for the purpose of determining the official contest results.

(4) Risk-limiting audit procedures shall comply with all other requirements in regulations adopted by the Secretary of State pursuant to subdivision (g).

(f) Upon completion of the pilot program, the governing board shall notify the Secretary of State in writing of any defect, fault, or failure of the hardware, software, or firmware of the voting system or a part of the voting system.

(g) A voting system pilot program shall not be conducted in a legally binding election without the prior approval of the Secretary of State. The Secretary of State shall adopt and publish regulations governing voting system pilot programs.

(Added by renumbering Section 19211 by Stats. 2013, Ch. 602, Sec. 24. Effective January 1, 2014.)

Senate Bill No. 360

CHAPTER 602

An act to amend Section 19100 of, to amend the heading of Article 1 (commencing with Section 19200) of Chapter 3 of Division 19 of, to amend the headings of Chapter 3 (commencing with Section 19200) and Chapter 3.5 (commencing with Section 19260) of Division 19 of, to amend the heading of Division 19 (commencing with Section 19001) of, to amend and renumber Sections 19103, 19200.5, 19202, 19203, 19204, 19207, 19209, 19210, 19211, 19212, 19212.5, 19213, 19214, 19214.5, 19215, 19216, 19217, 19220, 19221, 19222, 19223, 19225, 19226, 19227, 19227.5, 19228, 19229, 19229.5, 19230, 19231, 19232, 19233, 19234, 19234.5, 19235, 19236, 19237, 19238, 19239, 19240, 19241, 19242, 19243, 19244, 19245, 19250, 19251, 19252, 19253, 19254, 19255, 19260, 19261, 19262, 19263, 19264, 19267, 19269, 19270, 19271, 19272, 19273, 19274, and 19275 of, to amend and renumber the headings of Article 2 (commencing with Section 19220), Article 2.5 (commencing with Section 19225), Article 3 (commencing with Section 19230), and Article 4 (commencing with Section 19250) of Chapter 3 of Division 19 of, to amend, renumber, and add Sections 19101, 19102, and 19201 of, to add Sections 19006, 19282, 19283, and 19286 to, to add Article 2 (commencing with Section 19220) to Chapter 3 of Division 19 of, to repeal Sections 19205, 19208, 19265, 19266, and 19268 of, and to repeal and add Section 19206 of, the Elections Code, relating to voting systems.

LEGISLATIVE COUNSEL'S DIGEST

SB 360, Padilla. Certification of voting systems.

(1) Existing law establishes various procedures and criteria for the approval by the Secretary of State of voting systems, including ballot marking systems, to be used in elections.

This bill would recast and revise those provisions by changing the term "approval" to the term "certification" and would authorize the Secretary of State to certify, conditionally approve, as specified, or withhold approval of a voting system. The bill would provide that it is the intent of the Legislature that a local jurisdiction be authorized to use available public funds to research and develop a nonproprietary voting system, as specified, for use in a pilot program or for submission to the Secretary of State, and that the Secretary of State certify all voting systems before they are used in future elections, adopt and publish testing standards, and encourage the development of voting systems that are easy to audit. The bill would require the Secretary of State to adopt and publish voting system standards and

regulations, as specified, and would require the Secretary of State to study the performance of the voting systems in use in the state.

This bill would additionally require the Secretary of State to publish requirements for the approval of state-approved testing agencies, as defined, that are authorized to conduct the testing and examination of voting systems and to approve and publish a list of authorized testing agencies. The bill also would provide that the person, corporation, or public agency applying for certification of a voting system is responsible for all costs associated with the testing of the voting system.

(2) Existing law prohibits the use of a voting system unless it has received the approval of the Secretary of State, as specified.

This bill would provide that a voting system that has been tested and approved for use in all elections by the Secretary of State before January 1, 2014, would be deemed to be certified or conditionally approved by the Secretary of State and would be authorized for use in elections, as specified. The bill would authorize a vendor or county that has submitted a voting system for federal qualification before August 1, 2013, to request approval of the voting system from the Secretary of State, as specified. The bill also would prohibit a jurisdiction from purchasing or contracting for a voting system unless the voting system has been certified or conditionally approved by the Secretary of State, except as specified. The bill would further authorize the Secretary of State to grant conditional approval to a voting system or part of a voting system under specified circumstances.

(3) Existing law provides that a person or corporation owning or being interested in a voting system or a part of a voting system may apply to the Secretary of State to examine it and report on its accuracy and efficiency to fulfill its purpose. As part of its application, existing law requires the vendor of a voting system or the part of a voting system to notify the Secretary of State in writing of any known defect, fault, or failure of the version of the hardware, software, or firmware of the voting system or a part of the voting system submitted, and the Secretary of State is required to notify the United States Election Assistance Commission or its successor entity of the problem as soon as practicable so as to present a reasonably complete description of the problem, as specified.

This bill would delete the requirement that the Secretary of State notify the United States Election Assistance Commission or its successor entity of any known defect, fault, or failure of the version of the hardware, software, or firmware of the voting system or a part of the voting system submitted by the applicant.

(4) Existing law requires the Secretary of State to provide for a 30-day public review period and conduct a public hearing prior to publishing his or her decision to certify, conditionally approve, or withhold certification of a voting system, part of a voting system, or a ballot marking system. Under existing law, the Secretary of State is required to transmit notice of the hearing at least 30 days prior to the public review period and hearing, as specified.

This bill would instead require the Secretary of State to transmit notice of the hearing at least 14 days prior to the public review period and hearing.

(5) Within 30 days after completing the examination of any voting system, existing law requires the Secretary of State to file a report stating whether the voting system can safely be used, as specified.

This bill would instead require the Secretary of State to file a report within 60 days after the completion of the examination of the voting system, as specified.

(6) Existing law authorizes a governing board to adopt any kind of voting system, any combination of voting systems, or any combination of a voting system and paper ballots for use at elections, as specified. Provisions of existing law authorize the use of the voting systems at any or all elections held in any county, city, or any of their political subdivisions for voting, registering, and counting votes cast, and prohibit candidates for a single office from being split between voting systems or between a voting system and paper ballots.

This bill would delete those provisions.

(7) Existing law authorizes a governing board to provide for the experimental use of a voting system in one or more precincts without formally adopting the system and provides that the experimental use of the system at the election is valid for all purposes as if it were lawfully adopted.

This bill would authorize a governing board to conduct a pilot program for the experimental use of voting systems, as specified, and would require the Secretary of State to adopt and publish regulations governing voting system pilot programs. No later than 9 months before the election at which a pilot program is proposed to be conducted, the bill would require the governing board to submit to the Secretary of State a plan for the proposed pilot program, and would require the Secretary of State to approve or reject the plan within 3 months of receipt of the plan. The bill would require votes cast on a voting system during a pilot program, as specified, to be subject to risk-limiting audits, as defined. Upon completion of the pilot program, the bill would require the governing board to notify the Secretary of State in writing of any defect, fault, or failure in the hardware, software, or firmware of the voting system.

(8) Upon examination of a voting system or a ballot marking system, existing law provides that if a report is issued that states that the voting system or ballot marking system can be used, it is deemed approved by the Secretary of State for use at elections.

This bill would delete the above provision and would make conforming changes.

(9) The Voting Modernization Bond Act of 2002 authorizes the issuance of bonds in the amount of $200,000,000 pursuant to the State General Obligation Bond Law for the purpose of assisting counties in the purchase of updated voting systems.

This bill would authorize a county to use fund moneys to contract and pay for research and development of a new voting system that has not been certified or conditionally approved by the Secretary of State, as specified,

and for the manufacture of the minimum number of voting system units, as specified.

(10) Existing law prohibits the Secretary of State, on and after January 1, 2005, from approving a direct recording electronic voting system unless the system has received federal qualification and includes an accessible voter verified paper audit trail.

This bill would prohibit a city or county from contracting for or purchasing a direct recording electronic voting system unless the system has been certified by the Secretary of State, and would require all direct recording electronic voting systems in use as of January 1, 2006, to have received federal qualification and include an accessible voter verified paper audit trail, as specified.

This bill would incorporate additional changes to be operative only if Assembly Bill 214 and this bill are both chaptered and become effective January 1, 2014.

The people of the State of California do enact as follows:

SECTION 1. The heading of Division 19 (commencing with Section 19001) of the Elections Code is amended to read:

DIVISION 19. CERTIFICATION OF VOTING SYSTEMS

SEC. 2. Section 19006 is added to the Elections Code, to read:

19006. It is the intent of the Legislature that:

(a) All voting systems be certified or conditionally approved by the Secretary of State, independent of voluntary federal qualification or certification, before they are used in future elections to ensure that the voting systems have the ability to meet accuracy, accessibility, and security standards.

(b) The Secretary of State adopt and publish testing standards that meet or exceed federal voluntary standards set by the United States Election Assistance Commission or its successor agency.

(c) The Secretary of State study and encourage the development of voting systems that use nonproprietary source code and that are easy to audit.

(d) A local jurisdiction may use available public funds to purchase and maintain any certified or conditionally approved voting system or part of a voting system.

(e) California receive the benefits of the publicly funded development of a nonproprietary voting system in the state.

(f) A local jurisdiction may use available public funds to research and develop a nonproprietary voting system that uses disclosed source codes, including the manufacture of a limited number of voting system units, for use in a pilot program or for submission to the Secretary of State for certification.

SEC. 3. Section 19100 of the Elections Code is amended to read:

19100. The Secretary of State shall study and adopt regulations governing the use of voting machines, voting devices, vote tabulating devices, and ballot marking systems, and shall be responsible for certifying voting systems for use in this state.

SEC. 4. Section 19101 of the Elections Code is amended and renumbered to read:

19103. The Chairperson of the Senate Standing Committee on Elections and Constitutional Amendments and the Chairperson of the Assembly Standing Committee on Elections and Redistricting shall meet with the Secretary of State and assist the Secretary of State to the extent that the participation is not incompatible with their positions as Members of the Legislature. For purposes of this division, the chairpersons of the committees named shall constitute a joint interim legislative committee on the subject of this chapter and Chapter 3 (commencing with Section 19200) and shall have the powers and duties imposed upon those committees by the Joint Rules of the Senate and Assembly.

SEC. 5. Section 19101 is added to the Elections Code, to read:

19101. (a) The Secretary of State shall adopt and publish voting system standards and regulations governing the use of voting systems. The Secretary of State shall adopt standards that meet or exceed federal voluntary voting system guidelines set forth by the United States Election Assistance Commission or its successor agency. Until state standards are adopted, the Voluntary Voting System Guidelines Draft Version 1.1, as submitted to the United States Election Assistance Commission on August 31, 2012, shall be used as state standards to the extent that they do not conflict with this code. The Secretary of State may require additional testing to ensure that voting systems meet the requirements of this code.

(b) Voting system standards adopted by the Secretary of State pursuant to subdivision (a) shall include, but not be limited to, all of the following requirements:

(1) The machine or device and its software shall be suitable for the purpose for which it is intended.

(2) The system shall preserve the secrecy of the ballot.

(3) The system shall be safe from fraud or manipulation.

(4) The system shall be accessible to voters with disabilities pursuant to Section 19242 and applicable federal laws.

(5) The system shall be accessible to voters who require assistance in a language other than English if the language is one in which a ballot or ballot materials are required to be made available to voters pursuant to Section 14201 and applicable federal laws.

SEC. 6. Section 19102 of the Elections Code is amended and renumbered to read:

19104. The Secretary of State may investigate any alleged violation of this code or the Secretary of State's regulations with the power to subpoena all necessary persons and records.

SEC. 6.5. Section 19102 of the Elections Code is amended and renumbered to read:

19105. The Secretary of State may investigate any alleged violation of this code or the Secretary of State's regulations with the power to subpoena all necessary persons and records.

SEC. 7. Section 19102 is added to the Elections Code, to read:

19102. The Secretary of State shall study the performance of voting systems in use in the state.

SEC. 8. Section 19103 of the Elections Code is amended and renumbered to read:

19212. (a) (1) No later than 10 business days after the Secretary of State certifies or conditionally approves the use of a new or updated voting system, the vendor or county seeking certification or approval of the voting system shall cause an exact copy of the approved source code for each component of the voting system, including complete build and configuration instructions and related documents for compiling the source code into object code, to be transferred directly from either the United States Election Assistance Commission or the voting system testing agency that evaluated the voting system and is approved by the Secretary of State, and deposited into an approved escrow facility.

(2) No later than 10 business days after the Secretary of State certifies or conditionally approves a new or updated ballot marking system, the vendor or county seeking certification or approval of the ballot marking system shall cause an exact copy of the approved source code for each component of the ballot marking system, including complete build and configuration instructions and related documents for compiling the source code into object code, to be deposited into an approved escrow facility.

(b) The Secretary of State shall adopt regulations relating to all of the following:

(1) The definition of source code components of a voting system or ballot marking system, including source code for all firmware and software of the voting system or ballot marking system. Firmware and software shall include commercial off-the-shelf or other third-party firmware and software that is available and able to be disclosed by the vendor or county seeking certification or approval of a voting system or ballot marking system.

(2) Specifications for the escrow facility, including security and environmental specifications necessary for the preservation of the voting system or ballot marking system source codes.

(3) Procedures for submitting voting system or ballot marking system source codes.

(4) Criteria for access to voting system or ballot marking system source codes.

(5) Requirements for the applicant to include in the materials deposited in escrow build and configuration instructions and documents so that a neutral third party may create, from the source codes in escrow, executable object codes identical to the code installed on certified or conditionally approved voting systems or ballot marking systems.

(c) The Secretary of State shall have reasonable access to the materials placed in escrow, under any of the following circumstances:

(1) In the course of an investigation or prosecution regarding vote counting or ballot marking equipment or procedures.

(2) Upon a finding by the Secretary of State that an escrow facility or escrow company is unable or unwilling to maintain materials in escrow in compliance with this section.

(3) In order to fulfill the provisions of this chapter related to the examination and certification or conditional approval of voting systems or ballot marking systems.

(4) In order to verify that the software on a voting system is identical to the certified or conditionally approved version.

(5) For any other purpose deemed necessary to fulfill the provisions of this code or Section 12172.5 of the Government Code.

(d) The Secretary of State may seek injunctive relief requiring the elections officials, approved escrow facility, or any vendor or manufacturer of a voting system or part of a voting system to comply with this section and related regulations. Venue for a proceeding under this section shall be exclusively in Sacramento County.

(e) This section applies to all elections.

SEC. 9. The heading of Chapter 3 (commencing with Section 19200) of Division 19 of the Elections Code is amended to read:

CHAPTER 3. CERTIFICATION OF VOTING SYSTEMS

SEC. 10. The heading of Article 1 (commencing with Section 19200) of Chapter 3 of Division 19 of the Elections Code is amended to read:

Article 1. Procedures for Certification of Voting Systems

SEC. 11. Section 19200.5 of the Elections Code is amended and renumbered to read:

19204. The Secretary of State shall not certify or conditionally approve any voting system that includes features that permit a voter to produce, and leave the polling place with, a copy or facsimile of the ballot cast by the voter at that polling place.

SEC. 12. Section 19201 of the Elections Code is amended and renumbered to read:

19202. (a) Except as authorized by Section 19209, a voting system, in whole or in part, shall not be used unless it has been certified or conditionally approved by the Secretary of State prior to any election at which it is to be used.

(b) A voting system that has been tested and approved for use in all elections by the Secretary of State before January 1, 2014, shall be deemed certified or conditionally approved by the Secretary of State and may be used in an election subject to any conditions placed on the use of the voting system by the Secretary of State before January 1, 2014, including conditions imposed in the reapproval documents issued by the Secretary of State in

2007 and 2008 following the Top-to-Bottom Review, and its subsequent revisions. The voting systems described in this subdivision shall remain subject to review and decertification by the Secretary of State at any time pursuant to Section 19232.

(c) A vendor or county that has submitted a voting system for federal qualification before August 1, 2013, upon obtaining federal qualification before January 1, 2015, may request approval of the voting system from the Secretary of State based on the examination and review requirements in place before January 1, 2014.

(d) A jurisdiction shall not purchase or contract for a voting system unless it has been certified or conditionally approved by the Secretary of State.

(e) Notwithstanding subdivision (d), a local jurisdiction may contract and pay for the following:

(1) Research and development of a new voting system that has not been certified or conditionally approved by the Secretary of State and uses only nonproprietary software and firmware with disclosed source code, except for unmodified commercial off-the-shelf software and firmware, as defined in paragraph (1) of subdivision (a) of Section 19209.

(2) Manufacture of the minimum number of voting system units reasonably necessary for either of the following purposes:

(A) To test and seek certification or conditional approval of the voting system pursuant to Sections 19210 to 19214, inclusive.

(B) To test and demonstrate the capabilities of the voting system in a pilot program pursuant to paragraph (2) of subdivision (b) of, and subdivision (c) of, Section 19209.

SEC. 13. Section 19201 is added to the Elections Code, to read:

19201. (a) The Secretary of State may grant conditional approval to a voting system or part of a voting system under either of the following circumstances:

(1) A voting system or part of a voting system was decertified as a result of a review by the Secretary of State pursuant to Section 19232.

(2) A certified voting system or part of that voting system is modified to comply with voting system standards or changes in statute.

(b) The Secretary of State may withdraw conditional approval at any time pursuant to Section 19232.

SEC. 14. Section 19202 of the Elections Code is amended and renumbered to read:

19210. (a) A person, corporation, or public agency owning or having an interest in the sale or acquisition of a voting system or a part of a voting system may apply to the Secretary of State for certification that includes testing and examination of the applicant's system by a state-approved testing agency or expert technicians and a report on the findings, which shall include the accuracy and efficiency of the voting system. As part of its application, the applicant shall notify the Secretary of State in writing of any known defect, fault, or failure of the version of the hardware, software, or firmware of the voting system or a part of the voting system submitted. The Secretary of State shall not begin his or her certification process until he or she receives

a completed application. The applicant shall also notify the Secretary of State in writing of any defect, fault, or failure of the version of the hardware, software, or firmware of the voting system or a part of the voting system submitted that is discovered after the application is submitted and before the Secretary of State submits the report required by Section 19213. The Secretary of State shall complete his or her certification process without undue delay.

(b) The Secretary of State shall publish and make publicly available on his or her Internet Web site a quarterly report of regulatory activities related to voting systems.

(c) As used in this article:

(1) "Defect" means any flaw in the hardware or documentation of a voting system that could result in a state of unfitness for use or nonconformance to the manufacturer's specifications or applicable law.

(2) "Failure" means a discrepancy between the external results of the operation of any software or firmware in a voting system and the manufacturer's product requirements for that software or firmware or applicable law.

(3) "Fault" means a step, process, or data definition in any software or firmware in a voting system that is incorrect under the manufacturer's program specification or applicable law.

SEC. 15. Section 19203 of the Elections Code is amended and renumbered to read:

19223. The Secretary of State shall use a state-approved testing agency or expert technicians to examine and test voting systems or parts of voting systems proposed for use or sale in this state. He or she shall furnish a complete report of the findings of the examination and testing to the Governor and the Attorney General.

SEC. 16. Section 19204 of the Elections Code is amended and renumbered to read:

19211. (a) Prior to publishing his or her decision to certify, conditionally approve, or withhold certification of a voting system or part of a voting system, the Secretary of State shall provide for a 30-day public review period and conduct a public hearing to give persons interested an opportunity to review testing and examination reports and express their views for or against certification or conditional approval of the voting system.

(b) The Secretary of State shall give notice of the public review period and hearing in the manner prescribed in Section 6064 of the Government Code in a newspaper of general circulation published in Sacramento County. The Secretary of State shall also provide notice of the hearing on his or her Internet Web site. The Secretary of State shall transmit written notice of the hearing, at least 14 days prior to the public review period and hearing, to each county elections official, to any person that the Secretary of State believes will be interested in the public review period and hearing, and to any person who requests, in writing, notice of the public review period and hearing.

(c) The decision of the Secretary of State to certify, conditionally approve, or withhold certification of a voting system or part of a voting system shall be in writing and shall state the findings of the Secretary of State. The decision shall be open to public inspection.

SEC. 17. Section 19205 of the Elections Code is repealed.

SEC. 18. Section 19206 of the Elections Code is repealed.

SEC. 19. Section 19206 is added to the Elections Code, to read:

19206. Except as authorized by Section 19209, both of the following apply:

(a) If more than one voting system is used to count ballots, the names of candidates shall, insofar as possible, be placed on the primary voting system.

(b) If more than one voting system or a combination of a voting system and paper ballots is used to count ballots, a single ballot measure or the candidates for a single office may not be split between voting systems or between a voting system and paper ballots.

SEC. 20. Section 19207 of the Elections Code is amended and renumbered to read:

19213. Within 60 days after the completion of the examination of a voting system, the Secretary of State shall make publicly available a report stating whether the voting system has been certified or conditionally approved, or whether certification has been withheld. The report shall also contain a written or printed description and drawings and photographs that clearly identify the machine or device and its mechanical operation.

SEC. 21. Section 19208 of the Elections Code is repealed.

SEC. 22. Section 19209 of the Elections Code is amended and renumbered to read:

19214. Within 10 days after issuing and filing a certification decision and associated testing reports, the Secretary of State shall make available to the public a full and complete copy of the certification report and all associated documentation, except that portions of the report or documentation that contain information that the Secretary of State determines to be confidential or proprietary shall not be made publicly available. The Secretary of State shall also notify the board of supervisors and elections official of each county of the availability of the report and associated documentation.

SEC. 23. Section 19210 of the Elections Code is amended and renumbered to read:

19207. The governing board may adopt for use at elections any kind of voting system, any combination of voting systems, or any combination of a voting system and paper ballots, provided that the voting system or systems involved have been certified or conditionally approved by the Secretary of State or specifically authorized by law pursuant to Section 19209.

SEC. 24. Section 19211 of the Elections Code is amended and renumbered to read:

19209. (a) For purposes of this section, the following terms have the following meanings:

(1) "Commercial off-the-shelf" means mass-produced, readily available hardware devices, including card readers, printers, or personal computers, and their firmware or software products, including operating systems, programming language compilers, or database management systems.

(2) "Incorrect in part" means a full manual tally of the votes cast on the pilot system would reveal rates of error in the pilot system tally that, if extrapolated to the entire contest, would alter the electoral outcome.

(3) "Partial risk-limiting audit" means a procedure that guarantees a large minimum chance of a full manual tally of the votes cast on the pilot system if the electoral outcome is incorrect in part.

(4) "Risk-limiting audit" means a procedure that ensures a large, predetermined minimum chance of requiring a full manual tally whenever a full manual tally would show an electoral outcome that differs from the outcome reported by the voting system for the audited contest.

(b) The governing board, without formally adopting a voting system, may provide for the experimental use of the voting system in a pilot program held in one or more precincts at a single election or, in the case of a special election, the special primary election and the special general election, if the voting system complies with either of the following:

(1) The voting system is certified or conditionally approved prior to its experimental use.

(2) The voting system meets all of the following requirements:

(A) Uses only software and firmware with disclosed source code, except for unmodified commercial off-the-shelf software and firmware.

(B) Meets the requirements of subdivision (b) of Section 19101.

(C) Meets the requirements of the regulations adopted by the Secretary of State pursuant to subdivision (g).

(D) Implements risk-limiting audits.

(c) A voting system that meets all of the requirements of paragraph (2) of subdivision (b) need not be certified or conditionally approved prior to its experimental use in a pilot program if the number of voting system units deployed in the pilot program is limited to the number necessary to test and demonstrate the capabilities of the voting system in a limited number of precincts or locations, including a prudent number of reserve units to ensure that sufficient working units will be available to conduct the pilot program. In no event shall the number of voting system units exceed 50 percent of the estimated number of units that would be required for full deployment of the voting system at every polling place and early voting site in a statewide election throughout the jurisdiction. Capabilities that may be taken into account in determining the number of voting system units reasonably necessary to test and demonstrate the capabilities of the voting system include, but are not limited to, all of the following:

(1) The capability of the voting system to accommodate voting in all languages in which the jurisdiction is required to provide ballots under applicable state and federal laws.

(2) The capability of the voting system to accommodate voting by persons with a broad range of physical and cognitive disabilities, as required by applicable state and federal laws.

(3) The current and projected number of voting-eligible individuals in the jurisdiction.

(4) The geography and distribution of the population in the jurisdiction.

(d) No later than nine months before the election at which the pilot program of a voting system is proposed to be conducted, the governing board shall submit to the Secretary of State a plan for the pilot program. The Secretary of State shall approve or reject the plan no later than three months after receipt of the plan.

(e) The votes cast on a voting system during a pilot program pursuant to subdivision (b) shall be subject to risk-limiting audits.

(1) For each contest conducted entirely on the pilot voting system, the jurisdiction conducting the pilot program shall conduct a risk-limiting audit with at least a 90-percent chance of requiring a full manual tally of the contest whenever a full manual tally would show an outcome that differs from the outcome reported by the pilot voting system.

(2) For each contest conducted partially on the pilot voting system, the jurisdiction conducting the pilot program shall conduct a partial risk-limiting audit of the portion of the contest in which the voters cast their votes on the pilot voting system, with at least a 90-percent chance of requiring a full manual tally of all votes cast using the pilot voting system whenever the outcome is incorrect in part.

(3) (A) If a risk-limiting audit of a contest leads to a full manual tally of all of the ballots cast in the contest, then the contest outcome according to that manual tally shall become the official result.

(B) If a partial risk-limiting audit of a contest leads to a full manual tally of the ballots cast using the pilot voting system, the vote counts according to that manual tally shall replace the vote counts reported by the pilot voting system for the purpose of determining the official contest results.

(4) Risk-limiting audit procedures shall comply with all other requirements in regulations adopted by the Secretary of State pursuant to subdivision (g).

(f) Upon completion of the pilot program, the governing board shall notify the Secretary of State in writing of any defect, fault, or failure of the hardware, software, or firmware of the voting system or a part of the voting system.

(g) A voting system pilot program shall not be conducted in a legally binding election without the prior approval of the Secretary of State. The Secretary of State shall adopt and publish regulations governing voting system pilot programs.

SEC. 25. Section 19212 of the Elections Code is amended and renumbered to read:

19208. The governing board may provide for the payment of the cost of the voting system equipment in any manner and by any method as it deems best for local interests, and also may for that purpose issue bonds,

certificates of indebtedness, or other obligations that shall be a charge on the county or city. The bonds, certificates, or other obligations may be issued with or without interest, payable at any time as the authorities may determine, but shall not be issued or sold at less than par. The governing board may enter into lease agreements or lease-purchase agreements for the use of equipment.

SEC. 26. Section 19212.5 of the Elections Code is amended and renumbered to read:

19215. (a) If a voting system or a part of a voting system has been certified or conditionally approved by the Secretary of State or has been federally qualified, the vendor or, in cases where the system is publicly owned, the jurisdiction shall notify the Secretary of State and all local elections officials who use the system in writing of any defect, fault, or failure of the hardware, software, or firmware of the voting system or a part of the voting system within 30 calendar days after the vendor learns of the defect, fault, or failure.

(b) After receiving written notification of a defect, fault, or failure pursuant to subdivision (a), the Secretary of State shall notify the United States Election Assistance Commission or its successor agency of the problem as soon as practicable so as to present a reasonably complete description of the problem. The Secretary of State shall subsequently submit a report regarding the problem to the United States Election Assistance Commission or its successor agency. The report shall include any report regarding the problem submitted to the Secretary of State.

SEC. 27. Section 19213 of the Elections Code is amended and renumbered to read:

19216. If a voting system or a part of a voting system has been certified or conditionally approved by the Secretary of State, it shall not be changed or modified until the Secretary of State has been notified in writing and has determined that the change or modification does not impair its accuracy and efficiency sufficient to require a reexamination and recertification, or conditional approval, pursuant to this article. The Secretary of State may adopt rules and regulations governing the procedures to be followed in making his or her determination as to whether the change or modification impairs accuracy or efficiency.

SEC. 28. Section 19214 of the Elections Code is amended and renumbered to read:

19217. The Secretary of State may seek injunctive and administrative relief if a voting system or a part of a voting system has been compromised by the addition or deletion of hardware, software, or firmware without prior approval or is defective due to a known hardware, software, or firmware defect, fault, or failure that has not been disclosed pursuant to Section 19210 or 19215.

SEC. 29. Section 19214.5 of the Elections Code is amended and renumbered to read:

19218. (a) The Secretary of State may seek all of the following relief for an unauthorized change in hardware, software, or firmware in a voting system certified or conditionally approved in California:

(1) A civil penalty from the offending party or parties, not to exceed ten thousand dollars ($10,000) per violation. For purposes of this subdivision, each voting system component found to contain the unauthorized hardware, software, or firmware shall be considered a separate violation. A penalty imposed pursuant to this subdivision shall be apportioned 50 percent to the county in which the violation occurred, if applicable, and 50 percent to the office of the Secretary of State for purposes of bolstering voting systems security efforts.

(2) Immediate commencement of proceedings to withdraw certification or conditional approval for the voting system in question.

(3) Prohibiting the manufacturer or vendor of a voting system from doing elections-related business in the state for one, two, or three years.

(4) Refund of all moneys paid by a local agency for a voting system or a part of a voting system that is compromised by an unauthorized change or modification, whether or not the voting system has been used in an election.

(5) Any other remedial actions authorized by law to prevent unjust enrichment of the offending party.

(b) (1) The Secretary of State may seek all of the following relief for a known but undisclosed defect, fault, or failure in a voting system or part of a voting system certified or conditionally approved in California:

(A) Refund of all moneys paid by a local agency for a voting system or part of a voting system that is defective due to a known but undisclosed defect, fault, or failure, whether or not the voting system has been used in an election.

(B) A civil penalty from the offending party or parties, not to exceed fifty thousand dollars ($50,000) per violation. For purposes of this subdivision, each defect, fault, or failure shall be considered a separate violation. A defect, fault, or failure constitutes a single violation regardless of the number of voting system units in which the defect, fault, or failure is found.

(C) In addition to any other penalties or remedies established by this section, the offending party or parties shall be liable in the amount of one thousand dollars ($1,000) per day after the applicable deadline established in Section 19215 until the required disclosure is filed with the Secretary of State.

(2) A penalty imposed pursuant to subparagraph (B) or (C) of paragraph (1) shall be deposited in the General Fund.

(c) Before seeking any measure of relief under this section, the Secretary of State shall hold a public hearing. The Secretary of State shall give notice of the hearing in the manner prescribed by Section 6064 of the Government Code in a newspaper of general circulation published in Sacramento County. The Secretary of State also shall transmit written notice of the hearing, at least 30 days prior to the hearing, to each county elections official, the

offending party or parties, a person that the Secretary of State believes will be interested in the hearing, and a person who requests, in writing, notice of the hearing.

(d) The decision of the Secretary of State to seek relief under this section shall be in writing and state his or her findings. The decision shall be open to public inspection.

SEC. 30. Section 19215 of the Elections Code is amended and renumbered to read:

19219. (a) The Secretary of State may seek injunctive relief requiring an elections official, or any vendor or manufacturer of a voting machine, voting system, or vote tabulating device, to comply with the requirements of this code, the regulations of the Secretary of State, and the specifications for voting machines, voting devices, vote tabulating devices, and any software used for each, including the programs and procedures for vote tabulating and testing.

(b) Venue for a proceeding under this section shall be exclusively in Sacramento County.

SEC. 31. Section 19216 of the Elections Code is amended and renumbered to read:

19203. The Secretary of State shall not certify or conditionally approve a voting system or a part of a voting system that uses paper ballots unless the paper used for the ballots is of sufficient quality that it maintains its integrity and readability throughout the retention period specified in Chapter 4 (commencing with Section 17300) of Division 17.

SEC. 32. Section 19217 of the Elections Code is amended and renumbered to read:

19205. A voting system shall comply with all of the following:

(a) No part of the voting system shall be connected to the Internet at any time.

(b) No part of the voting system shall electronically receive or transmit election data through an exterior communication network, including the public telephone system, if the communication originates from or terminates at a polling place, satellite location, or counting center.

(c) No part of the voting system shall receive or transmit wireless communications or wireless data transfers.

SEC. 33. The heading of Article 2 (commencing with Section 19220) of Chapter 3 of Division 19 of the Elections Code is amended and renumbered to read:

Article 3. Inspection of Certified and Conditionally Approved Voting Systems

SEC. 34. Section 19220 of the Elections Code is amended and renumbered to read:

19230. The elections official of any county or city using a voting system shall inspect the machines or devices at least once every two years to

determine their accuracy. Any county or city using leased or rented equipment shall determine if the equipment has been inspected for accuracy within the last two years before using it for any election. The inspection shall be made in accordance with regulations adopted and promulgated by the Secretary of State. The elections official shall certify the results of the inspection to the Secretary of State.

SEC. 35. Article 2 (commencing with Section 19220) is added to Chapter 3 of Division 19 of the Elections Code, to read:

Article 2. Voting System Testing Agencies

19220. For purposes of this division, "state-approved testing agency" means a person or entity that is authorized by the Secretary of State to conduct the testing and examination of a voting system in connection with certification or conditional approval of the voting system pursuant to this division.

19221. The Secretary of State shall do all of the following:

(a) Publish requirements for the approval of state-approved testing agencies that are authorized to conduct the testing and examination of voting systems. Until the requirements are published, federally accredited voting system laboratories shall be used to conduct testing and examination.

(b) Approve and publish a list of authorized state-approved testing agencies.

19222. The person, corporation, or public agency applying for certification of a voting system is responsible for all costs associated with the testing of the voting system.

SEC. 36. Section 19221 of the Elections Code is amended and renumbered to read:

19231. (a) If the Secretary of State has reason to believe that a local inspection of equipment is not adequate, he or she may cause the equipment to be reexamined, at any time prior to six months before a statewide election, to ensure that the voting system or parts of the voting system perform to adopted standards and tabulate votes accurately.

(b) For the purpose of reexamining voting equipment, the Secretary of State may use state-approved testing agencies or expert technicians at the cost of the elections official.

(c) The Secretary of State shall furnish a complete report of the findings to the Governor, to the Attorney General, to each county elections official, to the chairpersons of the elections committees of the Assembly and Senate, and to the manufacturer of the equipment.

SEC. 37. Section 19222 of the Elections Code is amended and renumbered to read:

19232. The Secretary of State shall review voting systems periodically to determine if they are defective, obsolete, or otherwise unacceptable. The Secretary of State has the right to withdraw his or her certification or conditional approval previously granted under this chapter of any voting

system or part of a voting system should it be defective or prove unacceptable after such review. Six months' notice shall be given before withdrawing certification or conditional approval unless the Secretary of State for good cause shown makes a determination that a shorter notice period is necessary. Any withdrawal by the Secretary of State of his or her previous certification or conditional approval of a voting system or part of a voting system shall not be effective as to any election conducted within six months of that withdrawal.

SEC. 38. Section 19223 of the Elections Code is amended and renumbered to read:

19233. The Secretary of State shall conduct random audits of the software installed on direct recording electronic voting systems, as defined in Section 19271, to ensure that the installed software is identical to the software that has been approved for use on that voting system. The Secretary of State shall take steps to ensure that the process for conducting random audits does not intentionally cause a direct recording electronic voting system to become more vulnerable to any unauthorized changes to the software that has been approved for its use.

SEC. 39. The heading of Article 2.5 (commencing with Section 19225) of Chapter 3 of Division 19 of the Elections Code is amended and renumbered to read:

Article 4. Accessible Voting Systems

SEC. 40. Section 19225 of the Elections Code is amended and renumbered to read:

19240. It is the intent of the Legislature that California voting system standards and elections comply with the provisions of the federal Help America Vote Act of 2002 (42 U.S.C. Sec. 15301 et seq.) that require voting systems be accessible for individuals with disabilities, including nonvisual accessibility for the blind and visually impaired, in a manner that provides the same opportunity for access and participation, including privacy and independence, as provided to other voters who are not disabled.

SEC. 41. Section 19226 of the Elections Code is amended and renumbered to read:

19241. As used in this article:

(a) "Access" means the ability to receive, use, select, and manipulate data and operate controls included in voting technology and systems.

(b) "Nonvisual" means synthesized speech, braille, and other output methods that do not require sight.

SEC. 42. Section 19227 of the Elections Code is amended and renumbered to read:

19242. (a) The Secretary of State shall adopt and publish rules and regulations governing any voting technology and systems used by the state or any political subdivision that provide voters with disabilities the access

required under the federal Help America Vote Act of 2002 (42 U.S.C. Sec. 15301 et seq.).

(b) At each polling place, at least one voting unit certified or conditionally approved by the Secretary of State shall provide voters with disabilities the access required under the federal Help America Vote Act of 2002 (42 U.S.C. Sec. 15301 et seq.).

(c) A local agency is not required to comply with subdivision (b) in an election in which a candidate for federal office does not appear on the ballot unless sufficient funds are available to implement that provision. Funds received from the proceeds of the Voting Modernization Bond Act of 2002 (Article 5 (commencing with Section 19250)), from federal funds made available to purchase new voting systems, or from any other source except the General Fund, shall be used for that purpose.

SEC. 43. Section 19227.5 of the Elections Code is amended and renumbered to read:

19243. In requiring access for voters with disabilities pursuant to this article, the Secretary of State shall obtain recommendations from representatives of blind consumer organizations, experts in accessible software and hardware design, and any other individual or organization the Secretary of State determines to be appropriate.

SEC. 44. Section 19228 of the Elections Code is amended and renumbered to read:

19244. Compliance with this article in regard to voting technology and systems purchased prior to the effective date of this article shall be achieved at the time of procurement of an upgrade or replacement of existing voting equipment or systems.

SEC. 45. Section 19229 of the Elections Code is amended and renumbered to read:

19245. (a) A person injured by a violation of this article may maintain an action for injunctive relief to enforce this article.

(b) An action for injunctive relief shall be commenced within four years after the cause of action accrues.

(c) For purposes of this section, a cause of action for a continuing violation accrues at the time of the latest violation.

SEC. 46. Section 19229.5 of the Elections Code is amended and renumbered to read:

19246. This article does not apply to voting by vote by mail ballot.

SEC. 47. The heading of Article 3 (commencing with Section 19230) of Chapter 3 of Division 19 of the Elections Code is amended and renumbered to read:

Article 5. Voting Modernization Bond Act of 2002 (Shelley-Hertzberg Act)

SEC. 48. Section 19230 of the Elections Code is amended and renumbered to read:

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19250. This article shall be known and may be cited as the Voting Modernization Bond Act of 2002 (Shelley-Hertzberg Act).

SEC. 49. Section 19231 of the Elections Code is amended and renumbered to read:

19251. The State General Obligation Bond Law (Chapter 4 (commencing with Section 16720) of Part 3 of Division 4 of Title 2 of the Government Code), except as otherwise provided herein, is adopted for the purpose of the issuance, sale, and repayment of, and otherwise providing with respect to, the bonds authorized to be issued by this article, and the provisions of that law are included in this article as though set out in full.

SEC. 50. Section 19232 of the Elections Code is amended and renumbered to read:

19252. As used in this article:

(a) "Board" means the Voting Modernization Board, established pursuant to Section 19256.

(b) "Bond" means a state general obligation bond issued pursuant to this article adopting the provisions of the State General Obligation Bond Law.

(c) "Bond act" means this article authorizing the issuance of state general obligation bonds and adopting the State General Obligation Bond Law by reference.

(d) "Committee" means the Voting Modernization Finance Committee, established pursuant to Section 19253.

(e) "Fund" means the Voting Modernization Fund, created pursuant to subdivision (b) of Section 19254.

(f) "Voting system" means any voting machine, voting device, or vote tabulating device that does not use prescored punch card ballots.

SEC. 51. Section 19233 of the Elections Code is amended and renumbered to read:

19253. (a) The Voting Modernization Finance Committee is hereby established for the purpose of authorizing the issuance and sale, pursuant to the State General Obligation Bond Law, of the bonds authorized by this article.

(b) The committee consists of the Controller, the Director of Finance, and the Treasurer, or their designated representatives, all of whom shall serve without compensation, and a majority of whom shall constitute a quorum. The Treasurer shall serve as chairperson of the committee. A majority of the committee may act for the committee.

(c) For purposes of this article, the Voting Modernization Finance Committee is "the committee" as that term is used in the State General Obligation Bond Law.

SEC. 52. Section 19234 of the Elections Code is amended and renumbered to read:

19254. (a) The committee may create a debt or debts, liability or liabilities, of the State of California, in the aggregate amount of not more than two hundred million dollars ($200,000,000), exclusive of refunding bonds, in the manner provided herein for the purpose of creating a fund to assist counties in the purchase of updated voting systems.

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(b) The proceeds of bonds issued and sold pursuant to this article shall be deposited in the Voting Modernization Fund, which is hereby established.

(c) A county is eligible to apply to the board for fund money if it meets all of the following requirements:

(1) The county has purchased a new voting system after January 1, 1999, and is continuing to make payments on that system on the date that this article becomes effective.

(2) The county matches fund moneys at a ratio of one dollar ($1) of county moneys for every three dollars ($3) of fund moneys.

(3) The county has not previously requested fund money for the purchase of a new voting system. Applications for expansion of an existing system or components related to a previously certified or conditionally approved application shall be accepted.

(d) (1) Fund moneys shall only be used to purchase systems certified or conditionally approved by the Secretary of State.

(2) A county may use fund moneys to contract and pay for the following:

(A) Research and development of a new voting system that has not been certified or conditionally approved by the Secretary of State and uses only nonproprietary software and firmware with disclosed source code, except for unmodified commercial off-the-shelf software and firmware, as defined in paragraph (1) of subdivision (a) of Section 19209.

(B) Manufacture of the minimum number of voting system units reasonably necessary for either of the following purposes:

(i) To test and seek certification or conditional approval for the voting system pursuant to Sections 19210 to 19214, inclusive.

(ii) To test and demonstrate the capabilities of the voting system in a pilot program pursuant to paragraph (2) of subdivision (b) of, and subdivision (c) of, Section 19209.

(3) Fund moneys shall not be used to purchase a voting system that uses prescored punch card ballots.

(e) Any voting system purchased using bond funds that does not require a voter to directly mark on the ballot must produce, at the time the voter votes his or her ballot or at the time the polls are closed, a paper version or representation of the voted ballot or of all the ballots cast on a unit of the voting system. The paper version shall not be provided to the voter but shall be retained by elections officials for use during the 1 percent manual recount or other recount, audit, or contest.

SEC. 53. Section 19234.5 of the Elections Code is amended and renumbered to read:

19255. The Legislature may amend subdivisions (c) and (d) of Section 19254 and Section 19256 by a statute, passed in each house of the Legislature by rollcall vote entered in the respective journals, by not less than two-thirds of the membership in each house concurring, if the statute is consistent with, and furthers the purposes of, this article.

SEC. 54. Section 19235 of the Elections Code is amended and renumbered to read:

19256. The Voting Modernization Board is hereby established and designated the "board" for purposes of the State General Obligation Bond Law, and for purposes of administering the Voting Modernization Fund. The board consists of five members, three selected by the Governor and two selected by the Secretary of State. The board shall have the authority to reject any application for fund money it deems inappropriate, excessive, or that does not comply with the intent of this article. A county whose application is rejected shall be allowed to submit an amended application.

SEC. 55. Section 19236 of the Elections Code is amended and renumbered to read:

19257. (a) All bonds authorized by this article, when duly sold and delivered as provided herein, constitute valid and legally binding general obligations of the State of California, and the full faith and credit of the state is hereby pledged for the punctual payment of both principal and interest thereof. The bonds issued pursuant to this article shall be repaid within 10 years from the date they are issued.

(b) There shall be collected annually, in the same manner and at the same time as other state revenue is collected, a sum of money, in addition to the ordinary revenues of the state, sufficient to pay the principal of, and interest on, the bonds as provided herein. All officers required by law to perform any duty in regard to the collection of state revenues shall collect this additional sum.

(c) On the dates on which funds are remitted pursuant to Section 16676 of the Government Code for the payment of the then maturing principal of, and interest on, the bonds in each fiscal year, there shall be returned to the General Fund all of the money in the fund, not in excess of the principal of, and interest on, any bonds then due and payable. If the money so returned on the remittance dates is less than the principal and interest then due and payable, the balance remaining unpaid shall be returned to the General Fund out of the fund as soon as it shall become available, together with interest thereon from the dates of maturity until returned, at the same rate of interest as borne by the bonds, compounded semiannually. This subdivision does not grant any lien on the fund or the moneys therein to holders of any bonds issued under this article. However, this subdivision shall not apply in the case of any debt service that is payable from the proceeds of any refunding bonds. For purposes of this subdivision, "debt service" means the principal (whether due at maturity, by redemption, or acceleration), premium, if any, or interest payable on any date to any series of bonds.

SEC. 56. Section 19237 of the Elections Code is amended and renumbered to read:

19258. Notwithstanding Section 13340 of the Government Code, there is hereby continuously appropriated from the General Fund, for purposes of this article, a sum of money that will equal both of the following:

(a) That sum annually necessary to pay the principal of, and the interest on, the bonds issued and sold as provided herein, as that principal and interest become due and payable.

(b) That sum necessary to carry out Section 19259, appropriated without regard to fiscal years.

SEC. 57. Section 19238 of the Elections Code is amended and renumbered to read:

19259. For purposes of this article, the Director of Finance may, by executive order, authorize the withdrawal from the General Fund of a sum of money not to exceed the amount of the unsold bonds that have been authorized by the committee to be sold pursuant to this article. Any sums withdrawn shall be deposited in the fund. All moneys made available under this section to the board shall be returned by the board to the General Fund, plus the interest that the amounts would have earned in the Pooled Money Investment Account, from the sale of bonds for the purpose of carrying out this article.

SEC. 58. Section 19239 of the Elections Code is amended and renumbered to read:

19260. The board may request the Pooled Money Investment Board to make a loan from the Pooled Money Investment Account, in accordance with Section 16312 of the Government Code, for the purpose of carrying out this article. The amount of the request shall not exceed the amount of unsold bonds which the committee has, by resolution, authorized to be sold for the purpose of carrying out this article. The board shall execute whatever documents are required by the Pooled Money Investment Board to obtain and repay the loan. Any amounts loaned shall be deposited in the fund to be allocated by the board in accordance with this article.

SEC. 59. Section 19240 of the Elections Code is amended and renumbered to read:

19261. Upon request of the board, supported by a statement of its plans and projects approved by the Governor, the committee shall determine whether to issue any bonds authorized under this article in order to carry out the board's plans and projects and, if so, the amount of bonds to be issued and sold. Successive issues of bonds may be authorized and sold to carry out these plans and projects progressively, and it is not necessary that all of the bonds be issued or sold at any one time.

SEC. 60. Section 19241 of the Elections Code is amended and renumbered to read:

19262. (a) The committee may authorize the Treasurer to sell all or any part of the bonds authorized by this article at the time or times established by the Treasurer.

(b) Whenever the committee deems it necessary for an effective sale of the bonds, the committee may authorize the Treasurer to sell any issue of bonds at less than their par value, notwithstanding Section 16754 of the Government Code. However, the discount on the bonds shall not exceed 3 percent of the par value thereof.

SEC. 61. Section 19242 of the Elections Code is amended and renumbered to read:

19263. Out of the first money realized from the sale of bonds as provided by this article, there shall be redeposited in the General Obligation Bond

Expense Revolving Fund, established by Section 16724.5 of the Government Code, the amount of all expenditures made for purposes specified in that section, and this money may be used for the same purpose and repaid in the same manner whenever additional bond sales are made.

SEC. 62. Section 19243 of the Elections Code is amended and renumbered to read:

19264. Any bonds issued and sold pursuant to this article may be refunded in accordance with Article 6 (commencing with Section 16780) of Chapter 4 of Part 3 of Division 2 of Title 2 of the Government Code. The approval of the voters for the issuance of bonds under this article includes approval for the issuance of bonds issued to refund bonds originally issued or any previously issued refunding bonds.

SEC. 63. Section 19244 of the Elections Code is amended and renumbered to read:

19265. Notwithstanding any provision of the bond act, if the Treasurer sells bonds under this article for which bond counsel has issued an opinion to the effect that the interest on the bonds is excludable from gross income for purposes of federal income tax, subject to any conditions which may be designated, the Treasurer may establish separate accounts for the investment of bond proceeds and for the earnings on those proceeds, and may use those proceeds or earnings to pay any rebate, penalty, or other payment required by federal law or take any other action with respect to the investment and use of bond proceeds required or permitted under federal law necessary to maintain the tax-exempt status of the bonds or to obtain any other advantage under federal law on behalf of the funds of this state.

SEC. 64. Section 19245 of the Elections Code is amended and renumbered to read:

19266. The Legislature hereby finds and declares that, inasmuch as the proceeds from the sale of bonds authorized by this article are not "proceeds of taxes" as that term is used in Article XIII B of the California Constitution, the disbursement of these proceeds is not subject to the limitations imposed by Article XIII B.

SEC. 65. The heading of Article 4 (commencing with Section 19250) of Chapter 3 of Division 19 of the Elections Code is amended and renumbered to read:

Article 6. Direct Recording Electronic Voting Systems

SEC. 66. Section 19250 of the Elections Code is amended and renumbered to read:

19270. (a) The Secretary of State shall not certify or conditionally approve a direct recording electronic voting system unless the system includes an accessible voter verified paper audit trail.

(b) On and after January 1, 2006, a city or county shall not contract for or purchase a direct recording electronic voting system unless the system

has been certified or conditionally approved for use by the Secretary of State.

(c) As of January 1, 2006, all direct recording electronic voting systems in use on that date, regardless of the date it was contracted for or purchased, shall have received federal qualification and include an accessible voter verified paper audit trail. If the direct recording electronic voting system does not include an accessible voter verified paper audit trail, the system shall be replaced or modified to include an accessible voter verified paper audit trail.

(d) All direct recording electronic voting systems shall include a method by which a voter may electronically verify, through a nonvisual method, the information that is contained on the paper record copy of that voter's ballot.

(e) A paper record copy that is printed by a voter verified paper audit trail component shall be printed in the same language that the voter used when casting his or her ballot on the direct recording electronic voting system. For languages that lack a written form, the paper record copy shall be printed in English.

SEC. 67. Section 19251 of the Elections Code is amended and renumbered to read:

19271. As used in this article:

(a) "Accessible" means that the information provided on the paper record copy from the voter verified paper audit trail mechanism is provided or conveyed to voters via both a visual and a nonvisual method, such as through an audio component.

(b) "Direct recording electronic voting system" means a voting system that records a vote electronically and does not require or permit the voter to record his or her vote directly onto a tangible ballot.

(c) "Voter verified paper audit trail" means a component of a direct recording electronic voting system that prints a contemporaneous paper record copy of each electronic ballot and allows each voter to confirm his or her selections before the voter casts his or her ballot.

(d) "Federal qualification" means the system has been certified, if applicable, by means of qualification testing by a nationally recognized test laboratory and has met or exceeded the minimum requirements set forth in the Performance and Text Standards for Punch Card, Mark Sense, and Direct Recording Electronic Voting Systems, or in any successor voluntary standard document, developed and promulgated by the Federal Election Commission, the Election Assistance Commission, or the National Institute of Standards and Technology.

(e) "Paper record copy" means an auditable document printed by a voter verified paper audit trail component that corresponds to the voter's electronic vote and lists the contests on the ballot and the voter's selections for those contests. A paper record copy is not a ballot.

(f) "Parallel monitoring" means the testing of a randomly selected sampling of voting equipment on election day designed to simulate actual election conditions to confirm that the system is registering votes accurately.

SEC. 68. Section 19252 of the Elections Code is amended and renumbered to read:

19272. To the extent that they are available for expenditure for the purposes of this article, federal funds or moneys from the Voting Modernization Fund, created pursuant to subdivision (b) of Section 19254, shall be used. No moneys from the General Fund shall be expended for the purposes of this article.

SEC. 69. Section 19253 of the Elections Code is amended and renumbered to read:

19273. (a) On a direct recording electronic voting system, the electronic record of each vote shall be considered the official record of the vote, except as provided in subdivision (b).

(b) (1) The voter verified paper audit trail shall be considered the official paper audit record and shall be used for the required 1-percent manual tally described in Section 15360 and any full recount or post-election audit.

(2) The voter verified paper audit trail shall govern if there is any difference between it and the electronic record during a 1-percent manual tally, full recount, or post-election audit.

SEC. 70. Section 19254 of the Elections Code is amended and renumbered to read:

19274. The Secretary of State shall not certify or conditionally approve a direct recording electronic voting system unless the paper used for its voter verified paper audit trail is of sufficient quality that it maintains its integrity and readability throughout the retention period specified in Chapter 4 (commencing with Section 17300) of Division 17.

SEC. 71. Section 19255 of the Elections Code is amended and renumbered to read:

19275. (a) For each statewide election, the Secretary of State shall conduct parallel monitoring of each direct recording electronic voting system on which ballots will be cast. This section shall only apply to precincts that have more than one direct recording electronic voting system.

(b) The results of the parallel monitoring shall be made available prior to the certification of the election.

SEC. 72. The heading of Chapter 3.5 (commencing with Section 19260) of Division 19 of the Elections Code is amended to read:

CHAPTER 3.5. CERTIFICATION OF BALLOT MARKING SYSTEMS

SEC. 73. Section 19260 of the Elections Code is amended and renumbered to read:

19280. The Secretary of State shall not certify or conditionally approve a ballot marking system, or part of a ballot marking system, unless it fulfills the requirements of this code and the regulations of the Secretary of State.

SEC. 74. Section 19261 of the Elections Code is amended and renumbered to read:

19281. (a) A ballot marking system, in whole or in part, shall not be used unless it has been certified or conditionally approved by the Secretary of State prior to the election at which it is to be first used.

(b) All other uses of a ballot marking system shall be subject to the provisions of Section 19202.

SEC. 75. Section 19262 of the Elections Code is amended and renumbered to read:

19284. (a) A person, corporation, or public agency owning or having an interest in the sale or acquisition of a ballot marking system or a part of a ballot marking system may apply to the Secretary of State for certification or conditional approval that includes testing and examination of the applicant's system and a report on the findings, which shall include the accuracy and efficiency of the ballot marking system. As part of its application, the applicant of a ballot marking system or a part of a ballot marking system shall notify the Secretary of State in writing of any known defect, fault, or failure of the version of the hardware, software, or firmware of the ballot marking system or a part of the ballot marking system submitted. The Secretary of State shall not begin his or her certification process until he or she receives a completed application from the applicant of the ballot marking system or a part of the ballot marking system. The applicant shall also notify the Secretary of State in writing of any defect, fault, or failure of the version of the hardware, software, or firmware of the ballot marking system or a part of the ballot marking system submitted that is discovered after the application is submitted and before the Secretary of State submits the report required by Section 19288. The Secretary of State shall complete his or her examination without undue delay.

(b) After receiving an applicant's written notification of a defect, fault, or failure, the Secretary of State shall notify the United States Election Assistance Commission or its successor entity of the problem as soon as practicable so as to present a reasonably complete description of the problem. The Secretary of State shall subsequently submit a report regarding the problem to the United States Election Assistance Commission or its successor entity. The report shall include any report regarding the problem submitted to the Secretary of State by the applicant.

(c) As used in this chapter:

(1) "Defect" means any flaw in the hardware or documentation of a ballot marking system that could result in a state of unfitness for use or nonconformance to the manufacturer's specifications or applicable law.

(2) "Failure" means a discrepancy between the external results of the operation of any software or firmware in a ballot marking system and the manufacturer's product requirements for that software or firmware or applicable law.

(3) "Fault" means a step, process, or data definition in any software or firmware in a ballot marking system that is incorrect under the manufacturer's program specification or applicable law.

SEC. 76. Section 19263 of the Elections Code is amended and renumbered to read:

19285. The Secretary of State shall use a state-approved testing agency or expert technicians to examine ballot marking systems proposed for use or sale in this state. He or she shall furnish a complete report of the findings of the examination and testing to the Governor and the Attorney General.

SEC. 77. Section 19264 of the Elections Code is amended and renumbered to read:

19287. (a) Prior to publishing his or her decision to certify, conditionally approve, or withhold certification of a ballot marking system, the Secretary of State shall provide for a 30-day public review period and conduct a public hearing to give interested persons an opportunity to review testing and examination reports and express their views for or against certification or conditional approval of the ballot marking system.

(b) The Secretary of State shall give notice of the public review period and hearing in the manner prescribed in Section 6064 of the Government Code in a newspaper of general circulation published in Sacramento County. The Secretary of State shall also provide notice of the hearing on his or her Internet Web site. The Secretary of State shall transmit written notice of the hearing, at least 14 days prior to the public review period and hearing, to each county elections official, to any person that the Secretary of State believes will be interested in the public review period and hearing, and to any person who requests, in writing, notice of the public review period and hearing.

(c) The decision of the Secretary of State to certify, conditionally approve, or withhold certification of a ballot marking system shall be in writing and shall state the findings of the Secretary of State. The decision shall be open to public inspection.

SEC. 78. Section 19265 of the Elections Code is repealed.

SEC. 79. Section 19266 of the Elections Code is repealed.

SEC. 80. Section 19267 of the Elections Code is amended and renumbered to read:

19288. Within 60 days after the completion of the examination of a ballot marking system, the Secretary of State shall make publicly available a report stating whether the ballot marking system has been certified or conditionally approved, or whether certification has been withheld.

SEC. 81. Section 19268 of the Elections Code is repealed.

SEC. 82. Section 19269 of the Elections Code is amended and renumbered to read:

19289. Within 10 days after issuing and filing a certification decision and associated testing reports, the Secretary of State shall make available to the public a full and complete copy of the certification report and all associated documentation, except that portions of the report or documentation that contain information that the Secretary of State determines to be confidential or proprietary shall not be made publicly available. The Secretary of State shall notify the board of supervisors and elections official of each county of the availability of the report and associated documentation.

SEC. 83. Section 19270 of the Elections Code is amended and renumbered to read:

19290. (a) If a ballot marking system has been certified or conditionally approved by the Secretary of State, the vendor or, in cases where the system is publicly owned, the jurisdiction shall notify the Secretary of State and all local elections officials who use the system in writing of any defect, fault, or failure of the hardware, software, or firmware of the system or a part of the system within 30 calendar days after the vendor or jurisdiction learns of the defect, fault, or failure.

(b) After receiving written notification of a defect, fault, or failure pursuant to subdivision (a), the Secretary of State shall notify the United States Election Assistance Commission or its successor entity of the problem as soon as practicable so as to present a reasonably complete description of the problem. The Secretary of State shall subsequently submit a report regarding the problem to the United States Election Assistance Commission or its successor entity. The report shall include any report regarding the problem submitted to the Secretary of State.

SEC. 84. Section 19271 of the Elections Code is amended and renumbered to read:

19291. If a ballot marking system has been certified or conditionally approved by the Secretary of State, it shall not be changed or modified until the Secretary of State has been notified in writing and has determined that the change or modification does not impair its accuracy and efficiency sufficient to require a reexamination and recertification or reapproval pursuant to this chapter. The Secretary of State may adopt rules and regulations governing the procedures to be followed in making his or her determination as to whether the change or modification impairs accuracy or efficiency.

SEC. 85. Section 19272 of the Elections Code is amended and renumbered to read:

19292. The Secretary of State may seek injunctive and administrative relief if a ballot marking system has been compromised by the addition or deletion of hardware, software, or firmware without prior approval or is defective due to a known hardware, software, or firmware defect, fault, or failure that has not been disclosed pursuant to Section 19284 or 19290.

SEC. 86. Section 19273 of the Elections Code is amended and renumbered to read:

19293. (a) The Secretary of State may seek all of the following relief for an unauthorized change in hardware, software, or firmware in a ballot marking system certified or conditionally approved in California:

(1) A civil penalty from the offending party or parties, not to exceed ten thousand dollars ($10,000) per violation. For purposes of this subdivision, each ballot marking system component found to contain the unauthorized hardware, software, or firmware shall be considered a separate violation. A penalty imposed pursuant to this subdivision shall be apportioned 50 percent to the county in which the violation occurred, if applicable, and 50 percent to the office of the Secretary of State for purposes of bolstering ballot marking system security efforts.

(2) Immediate commencement of proceedings to withdraw certification or conditional approval for the ballot marking system in question.

(3) Prohibiting the manufacturer or vendor of a ballot marking system from doing elections-related business in the state for one, two, or three years.

(4) Refund of all moneys paid by a local agency for a ballot marking system or a part of a ballot marking system that is compromised by an unauthorized change or modification, whether or not the ballot marking system has been used in an election.

(5) Any other remedial actions authorized by law to prevent unjust enrichment of the offending party.

(b) (1) The Secretary of State may seek all of the following relief for a known but undisclosed defect, fault, or failure in a ballot marking system or part of a ballot marking system certified or conditionally approved in California:

(A) Refund of all moneys paid by a local agency for a ballot marking system or part of a ballot marking system that is defective due to a known but undisclosed defect, fault, or failure, whether or not the ballot marking system has been used in an election.

(B) A civil penalty from the offending party or parties, not to exceed fifty thousand dollars ($50,000) per violation. For purposes of this subdivision, each defect, fault, or failure shall be considered a separate violation. A defect, fault, or failure constitutes a single violation regardless of the number of ballot marking system units in which the defect, fault, or failure is found.

(C) In addition to any other penalties or remedies established by this section, the offending party or parties shall be liable in the amount of one thousand dollars ($1,000) per day after the applicable deadline established in Section 19290 until the required disclosure is filed with the Secretary of State.

(2) A penalty imposed pursuant to subparagraph (B) or (C) of paragraph (1) shall be deposited in the General Fund.

(c) Before seeking any measure of relief under this section, the Secretary of State shall hold a public hearing. The Secretary of State shall give notice of the hearing in the manner prescribed by Section 6064 of the Government Code in a newspaper of general circulation published in Sacramento County. The Secretary of State also shall transmit written notice of the hearing, at least 30 days prior to the hearing, to each county elections official, the offending party or parties, any persons that the Secretary of State believes will be interested in the hearing, and any persons who request, in writing, notice of the hearing.

(d) The decision of the Secretary of State to seek relief under this section shall be in writing and state his or her findings. The decision shall be open to public inspection.

SEC. 87. Section 19274 of the Elections Code is amended and renumbered to read:

19294. (a) The Secretary of State may seek injunctive relief requiring an elections official, or any vendor or manufacturer of a ballot marking

system, to comply with the requirements of this code, the regulations of the Secretary of State, and the specifications for the ballot marking system and its software, including the programs and procedures for vote marking and testing.

(b) Venue for a proceeding under this section shall be exclusively in Sacramento County.

SEC. 88. Section 19275 of the Elections Code is amended and renumbered to read:

19295. A ballot marking system or part of a ballot marking system shall not do any of the following:

(a) Have the capability, including an optional capability, to use a remote server to mark a voter's selections transmitted to the server from the voter's computer via the Internet.

(b) Have the capability, including an optional capability, to store any voter identifiable selections on any remote server.

(c) Have the capability, including the optional capability, to tabulate votes.

SEC. 89. Section 19282 is added to the Elections Code, to read:

19282. The Secretary of State shall not certify or conditionally approve any ballot marking system that includes features that permit a voter to produce, and leave the polling place with, a copy or facsimile of the ballot cast by the voter at that polling place.

SEC. 90. Section 19283 is added to the Elections Code, to read:

19283. (a) The Secretary of State shall adopt and publish standards and regulations governing the use of ballot marking systems. The Secretary of State may also adopt, in whole or in part, voluntary federal ballot marking voting system standards established by the United States Election Assistance Commission or its successor agency.

(b) Ballot marking system standards adopted by the Secretary of State pursuant to subdivision (a) shall include, but not be limited to, all of the following requirements:

(1) The machine or device and its software shall be suitable for the purpose for which it is intended.

(2) The ballot marking system shall preserve the secrecy of the ballot.

(3) The ballot marking system shall be safe from fraud or manipulation.

(4) The ballot marking system shall be accessible to voters with disabilities and to voters who require assistance in a language other than English if the language is one in which a ballot or ballot materials are required to be made available to voters.

SEC. 91. Section 19286 is added to the Elections Code, to read:

19286. The person, corporation, or public agency applying for certification of a ballot marking system is responsible for all costs associated with the testing and examination of the ballot marking system.

SEC. 92. Section 6.5 of this bill shall only become operative if (1) this bill and Assembly Bill 214 are both enacted and become effective on or before January 1, 2014, and (2) Assembly Bill 214 adds Section 19104 to

the Elections Code, in which case Section 6 of this bill shall not become operative.

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Appendix G

Text of Proposed Regulations: Procedures for Approving, and Rejecting Voting Systems
for a Pilot Program (2014)

DRAFT

SECRETARY OF STATE
TEXT OF PROPOSED REGULATIONS

Add Sections 20650 through 20653 of Chapter 6.2 and Sections 20660 through 20662 of Chapter 6.3 of Division 7 of Title 2 of the California Code of Regulations to read:

Chapter 6.2. Procedures for Approving, and Rejecting Voting Systems for a Pilot Program.

§ 20650. Approval of Pilot Programs

In deciding whether to approve, reject or conditionally approve a pilot voting system under Section 19209 of the Elections Code, the Secretary of State shall conduct testing sufficient to establish:

(a) The accuracy, accessibility, reliability and security of the voting system to be piloted.

(b) That the voting system can meet the requirements of the California Elections Code.

Note: Authority: Sections 19100, 19101 and 19242 Elections Code.

Reference: Sections 19202 and 19209 Elections Code.

§ 20651. Application for Approval of Pilot Voting System

Any person or organization owning or being interested in a voting system may, no later than 12 months prior to the election at which the pilot program of the voting system is intended to be conducted, apply to the Secretary of State for approval or conditional approval of such system. The application shall be in writing and shall include the following:

(a) Information about the applicant, including name, address, telephone number, and business address, if applicable.

(b) Information about the voting system including, but not limited to, software, firmware, and hardware version numbers.

(c) A signed confidentiality agreement providing the Secretary of State, upon demand, source code for all software and firmware and a working model of the voting system.

(d) A signed letter providing that the Secretary of State may receive all reports, testing documentation and trusted build installation disks directly from the appropriate federal

Voting System Testing Laboratory (VSTL) who tested the voting system under the federal Election Assistance Commission's (EAC) or its successor entity's Voting System Testing and Certification process, if applicable.

(e) Final VSTL test reports, if applicable, for the voting system.

(f) Documentation showing if the voting system is federally qualified, if applicable.

(h) A list of all commercial off the shelf (COTS) software, firmware and hardware that is either recommended or required to install, operate, and/or provide maintenance support for the system.

(i) Recommended system configurations, option settings and definition parameters for all software, firmware and hardware (including COTS).

(j) A directory listing of program, data, and support files required to install, configure, operate, and/or provide supplemental support for the voting system.

(k) A description of known defects, faults or failures as defined in Elections Code section 19212.5, outstanding bugs, security vulnerabilities or other limitations of the system and any mitigations for each.

(l) Operating, maintenance, and technical specifications, including security features, and training manuals for the voting system.

(m) A detailed network diagram of which components are connected or related and how they are connected or related.

(n) Use Procedures for the voting system.

(o) Photographs of the voting system.

(p) A list of other States and their jurisdictional users who are using a predecessor or current version of the voting system being submitted, if applicable.

Note: Authority: Sections 19100, 19101 and 19242 Elections Code.

Reference: Sections 19202 and 19209 Elections Code.

§ 20652. Pilot Program Cost of Testing

The person, corporation, or public agency applying for the approval of a pilot voting system is responsible for all costs associated with the testing of the pilot voting system.

Note: Authority: Sections 19100, 19101 and 19242 Elections Code.

Reference: Sections 19202, 19209 and 19222 Elections Code.

§ 20653. Pilot Program Plan

No later than nine months before the election at which the pilot program of a voting system is proposed to be conducted, the governing board shall submit to the Secretary of State a plan for the pilot program. The plan at a minimum shall include:

(a) The number and location of the precincts, including the number of voting system units to be deployed in each of those locations, in which the pilot program is proposed to be conducted. The estimated number of voting system units the jurisdiction shall provide justification and substantiation for the determination of the required number of voting system units for full deployment of the full voting system at every polling place and early voting site in a statewide election throughout the jurisdiction. Capabilities that may be taken into account in determining both the number of units to be deployed in the pilot program and for the full deployment of the voting system in a statewide election throughout the jurisdiction include, but are not limited to, all of the following:

1) The capability of the voting system to accommodate voting in all languages in which the jurisdiction is required to provide.

2) The capability of the voting system to accommodate voting by persons with a broad range of physical and cognitive disabilities.

3) The current and projected number of voting-eligible individuals in the jurisdiction.

4) The geography and distribution of the population in the jurisdiction.

(b) A description of the methodology for the type of risk-limiting audit to be conducted and the process by which the risk-limiting audit will by conducted.

(c) A detailed description of additional training required for pollworkers in the affected polling places;

(d) A detailed description of education and notification programs to be provided for voters registered in the pilot program precincts.

Note: Authority: Sections 19100, 19101 and 19242 Elections Code.

Reference: Sections 19202 and 19209 Elections Code.

§ 20654. Approval of a Pilot Program Plan

The Secretary of State shall approve or reject the plan no later than three months after receipt of the plan. The plan may be approved prior to the completion of the testing, as described in section 20650, subject to the testing being completed no later than six months before the election

at which the pilot program of a voting system is proposed to be conducted. If the testing process will not be completed prior to six months before the election at which the pilot program of a voting system is proposed to be conducted, the Secretary of State shall deny the pilot program plan and the pilot program may not be conducted.

Note: Authority: Sections 19100, 19101 and 19242 Elections Code.
Reference: Sections 19202 and 19209 Elections Code.

Chapter 6.3. Procedures for Approving State Approved Testing Authorities.

§ 20660. State Approved Testing Authorities

To be considered by the Secretary of State for approval as a state approved testing authority (SATA), a laboratory shall:

    (a) Be evaluated and recommended by the National Institute of Standards and Technology (NIST) through their National Voluntary Laboratory Accreditation Program (NVLAP), pursuant to HAVA Section 231(b)(1).

    (b) Maintain ISO 9001 certification.

    (c) Maintain and enforce written policies which prohibit and prevent conflicts of interest or the appearance of conflicts of interest by the laboratory, its parent corporation, contracted third party laboratories, and any individual staff member involved in the testing of voting systems.

    (d) Maintain independence from voting system manufacturers, consistent with their roles and responsibilities through an arm's length relationship and avoid even the appearance of improper conduct.

Note: Authority: Sections 19100, 19101 and 19242 Elections Code.
Reference: Sections 19220, 19221 and 19223 Elections Code.

§ 20661. Application

Applicant laboratories are required to submit a Letter of Application requesting approval. The letter shall be addressed to the Secretary of State, Office of Voting System Technology Assessment, 1500 11th Street, Sacramento, California 95814. The applicant shall provide:

    (a) The legal name of the laboratory.

    (b) Mailing address of the laboratory.

    (c) Physical location of the laboratory (if different than the mailing address).

(d) Name, phone number, fax number and e-mail address of the voting system testing program manager or individual otherwise immediately responsible for the voting system testing program.

(e) Name, phone number, fax number, and e-mail address of the individual, CEO, president or otherwise titled head of the laboratory.

(f) Name, title, phone number, fax number, and e-mail address of the individual or individuals designated to speak for and take action on behalf of the laboratory.

(g) The business contact information (such as point of contact, address, website, e-mail address).

(h) Evidence that the laboratory meets all applicable criteria described in section 20660.

(i) The identity of the laboratory's insurer(s), name of insured, and coverage limits for any comprehensive general liability policies, errors and omissions policies, and professional liability policies.

(j) A written assessment of the laboratory's commercial general liability insurance.

(k) A signed statement certifying that the laboratory maintains workman's compensation policy coverage sufficient to meet the State's minimum requirements.

(l) A copy of the laboratory's organizational chart which includes the names of key staff responsible for the testing of voting systems.

(m) A copy of the laboratory's conflict of interest policy.

(n) A copy of the laboratory's personnel policy.

(o) A copy of the laboratory's recordkeeping policy.

(p) A copy of the laboratory facilities brochure.

(q) A copy of the most recent annual report, the names of the current board of directors and the previous year's board of directors, the names of any majority shareholders, and audited financial statements of the companies or entities that own and operate the laboratory. Unincorporated laboratories should provide comparable information.

Note: Authority: Sections 19100, 19101 and 19242 Elections Code.

Reference: Sections 19202 and 19209 Elections Code.

§ 20662. Inspection of Approved SATAs

At any time, the Secretary of State may make inspections, with or without notice, of any laboratory facilities that are being used to conduct voting system testing for the State of California and any related documentation or procedures.

§ 20663. Approval and Renewal

A SATA approval is valid for a period not to exceed two years from the date of approval. To maintain approval the SATA shall:

(a) Report any change to the required criteria in section 20660 to the Secretary of State within thirty (30) days of that change. Any change to the required criteria may result in the suspension and possible revocation of approval of the SATA.

(b) SATAs in good standing may renew their approval by submitting an updated Letter of Application, as prescribed in section 20661, no earlier than 60 days before the approval expiration date and no later than 30 days before that date. Laboratories that timely file the renewal application package shall retain their approval while the review and processing of their application is pending.

Note: Authority: Sections 19100, 19101 and 19242 Elections Code.

Reference: Sections 19202 and 19209 Elections Code.

Appendix H

County Pilot Audit Reports

ORANGE COUNTY
Calculation of Conducting Risk-Limiting Audit vs. 1% Tally
for the San Clemente Election

Risk-Limiting Audit:

		Hours/Mins	Rate	Total
Four Board Members:	Delicia Hsu	1.75	$ 30.80	$ 53.90
	Jay Koo	1.75	$ 30.80	$ 53.90
	Marcia Nielsen	1.75	$ 29.52	$ 51.66
	Jessica Castaneda	1.75	$ 21.06	$ 36.86
Find Particular Ballots:	Christian Tran	1.00	$ 36.82	$ 36.82
	Justin Berardino	4.00	$ 47.76	$ 191.04
Survey and Research:	Brent Adams	3.00	$ 19.87	$ 59.61
Totals		**15.00**		**$ 483.79**

vs.

1% Tally:

		Hours/Mins	Rate	Total
Four Board Members:	Delicia Hsu	1.00	$ 30.80	$ 30.80
	Jay Koo	1.00	$ 30.80	$ 30.80
	Jessica Castenada	1.00	$ 21.06	$ 21.06
	Kay Cotton	1.00	$ 52.22	$ 52.22
Paper Ballots:	Christian Tran	1.00	$ 36.82	$ 36.82
Tally Reports:	Justin Berardino	1.00	$ 47.76	$ 47.76
Eslate Roll:	Brent Adams	0.50	$ 19.87	$ 9.94
	Derek Moore	1.00	$ 28.28	$ 28.28
Totals		**7.50**		**$ 257.68**

MONTEREY COUNTY
Calculation of Conducting Risk-Limiting Audit vs. 1% Tally
for the County of Monterey Election, May 2011

Risk-Limiting Audit:

		Hours/Mins	Rate	Total	vs.			Hours/Mins	Rate	Total
Four Board Members:	Election Worker #1	1.00	$35.67	$ 35.67		Four Board Members:	Election Worker #1	1.00	$35.67	$ 35.67
	Election Worker #2	1.00	$25.02	$ 25.02			Election Worker #2	1.00	$25.02	$ 25.02
	Election Worker #3	1.00	$26.22	$ 26.22			Election Worker #3	1.00	$26.22	$ 26.22
	Election Worker #4	1.00	$25.02	$ 25.02			Election Worker #4	1.00	$25.02	$ 25.02
Totals		**4.00**		**$111.93**		**Totals**		**4.00**		**$111.93**

1% Tally:

NOTE: This was a vote by mail only election. There was only one contest in this election with seven precincts participating. Therefore the 1% tally was one precinct and approximately 400 ballot verified. Given the size of the election it is difficult to see the benefits of the Risk-Limiting Audit, but the process of the Risk-Limiting Audit would most likely save more time and resources during a larger and more complex election.

SAN LUIS OBISPO COUNTY
Calculation of Conducting Risk-Limiting Audit vs. 1% Tally
for the City of San Luis Obispo Election (all vote-by-mail)
10,389 ballots- 2 measures

Risk Limiting		Hours/Mins	vs.	1% manual Tally		Hours/Mins
Four Board Members:	L. Zohns	1.75		Four Board Members:	C. Martin	1.00
	V. Wallen	1.75			C. Fontan	1.00
	E. Cano	1.75			L. Zohns	1.00
	T. Gong	1.75			V. Wallen	1.00
Find Particular Ballots:	J. Martinez	2.00		Sort Paper Ballots	J. Martinez	4.00
				Tally Reports:	T. Gong	1.50
Survey and Research:	J. Rodewald	2.50				
	T. Gong	2.50				
	J. Martinez	2.50				
Scanning Ballots	T. Gong	20.00				

Totals	36.50		Totals		9.50

Ventura County

PEOPLESOFT PAYROLL REPORTS FOR 2011

Payrol Costs for Scanning Process

Name	Hours/Min	Rate	Direct Charges
Chavez,Daniel	39.50	36.36	1,436.27
Lopez,Gonzalo	40.00	27.10	1,084.06
Chavez,Daniel	20.00	38.23	764.63
Lopez,Gonzalo	18.00	30.72	552.97
	117.50		**$ 3,837.92**

Scan Card Kit for Scanner:	550.00
Scanner Maintenance:	700.00
Auto Rental (GSA Charges):	113.86
Total Cost: $	5,201.78
(Overage) Amount Excluded	(201.78)
Maximum Grant Amount: $	5,000.00

1% Hand Tally

	Name	Hours	Rate $	Total Charges
Board Members	Lopez,Gonzalo	4	$26.13	104.52
	Philo,Gloria Louise	4	$25.57	102.28
	Reeder,Marilyn Christine	4	$12.93	51.72
	Cornejo,Robert	4	$13.70	54.80
	Chavez, Daniel	4	$35.10	140.40
Set-up	Philo,Gloria Louise	4	$25.57	102.28
		24		**558.00**

STANISLAUS COUNTY

Calculation of Conducting Risk-Limiting Audit vs. 1% Tally

for the Oakdale Measure "O" Election

Risk-Limiting Audit:

		Hours/Mins	*Rate	Total
Three Board Members:	Registrar of Voters	1.25	$ 61.50	$ 76.88
	Election Management	1.25	$ 29.70	$ 37.13
	Prof. Stark	1.25	$	$ -
Find Particular Ballots:	Election I.T.	1.00	$ 40.38	$ 40.38
	Election Management	0.25	$ 29.44	$ 7.36
Ballot Scanning	Election Staff	4.00	$ 16.17	$ 64.68
	Election Supervisor	3.75	$ 23.15	$ 86.81
	Scanner Rental Cost		$ 402.66	$ 402.66
Totals		**12.75**		**$ 715.89**

vs.

1% Tally:

		Hours/Mins	*Rate	Total
Four Board Members:	Election Staff	0.50	$ 22.01	$ 11.01
	Election Staff	0.50	$ 11.88	$ 5.94
	Election Staff	0.50	$ 11.88	$ 5.94
	Election Staff	0.50	$ 11.88	$ 5.94
1% Draw Preparation:	Election Staff	1.05	$ 22.01	$ 23.11
Paper Ballots:	Election Staff	0.25	$ 22.01	$ 5.50
Tally Reports:	Election I.T.	0.08	$ 40.38	$ 3.37
Totals		**3.38**		**$ 60.80**

*Rate includes wages only

ALAMEDA COUNTY
Calculation of Conducting Risk-Limiting Audit vs. 1% Tally
for the November 8, 2011 UDEL Election

Risk-Limiting Audit:

		Hours/Mins	Rate	Total
Three Board Members:	Chun Lin	15.50	$ 36.13	$ 560.02
	Van To	15.50	$ 25.01	$ 387.66
	Janet Yabut	16.00	$ 49.91	$ 798.56
Find Particular Ballots:	David Pink	21.75	$ 35.21	$ 765.82
	Andrew Seto	21.75	$ 68.60	$ 1,492.05
Survey and Research:	Lolita Francisco	20.00	$ 58.99	$ 1,179.80
Totals		**110.50**		**$ 5,183.90**

vs.

1% Tally:

		Hours/Mins	Rate	Total
Nine Board Members:	Jan Blythe	1.00	$ 51.55	$ 51.55
	Jacqueline Lam	6.00	$ 54.31	$ 325.86
	Gemma Nimedez-Arbas	3.00	$ 53.14	$ 159.42
	Lauren Perez	7.50	$ 45.82	$ 343.65
	Hester Sun	7.50	$ 50.73	$ 380.48
	Van To	7.00	$ 25.01	$ 175.07
	Zenaida Valerio	7.00	$ 25.01	$ 175.07
	Philip Cable	7.00	$ 25.01	$ 175.07
	Leo Fernandez	4.50	$ 45.50	$ 204.75
Paper Ballots/Tally Reports:	David Pink	7.50	$ 35.21	$ 264.08
Totals		**58.00**		**$ 2,254.99**

MERCED COUNTY
Calculation of Conducting Risk-Limiting Audit vs. 1% Tally
for the City of Merced Election

Risk-Limiting Audit:

		Hours/Mins	Rate		Total	
Board Members:	Stacey Cotter	4.00	$	83.54	$	334.16
	Shawnesti Machado	4.00	$	43.85	$	175.40
Find Particular Ballots:	Alicia Ponder	4.00	$	48.39	$	193.56
Scanning:	Shawnesti Machado	71.00	$	43.85	$	3,113.35
Batching:	Marina Ortega	9.50	$	46.48	.	
Totals		92.50			$	3,816.47

vs.

1% Tally:

		Hours/Mins	Rate		Total	
Board Members:	Betty Hale	11.00	$	16.50	$	181.50
	Bev Raggio	14.00	$	16.50	$	231.00
	Alicia Ponder	1.00	$	48.39	$	48.39
	Cyndi Helton	14.75	$	15.98	$	235.71
	Tammy Lyons	5.00	$	35.83	$	179.15
	Lea Hernandez	4.00	$	46.44	$	185.76
Tally Reports:	Shawnesti Machado	1.00	$	43.85	$	43.85
Totals		50.75			$	1,105.36

HUMBOLDT COUNTY
Calculation of Conducting Risk-Limiting Audit vs. 1% Tally
Consolidated District Election

Risk-Limiting Audit:

Four Board Members:	Hours/Mins	Rate		Total	
Amanda Windsor	4.00	$	9.22	$	36.88
Nancy Nieboer	2.00	$	9.22	$	18.44
Kelly Sanders	11.00	$	47.83	$	526.13
Judi Hedgpeth	8.00	$	34.83	$	278.64
Mitch Tractenberg	3.00	$	35.00	$	105.00
Teddy Wilwerding	2.00	$	29.86	$	59.72
Carolyn Crnich	12.00	$	78.30	$	939.60
Totals	**42.00**			**$ 1,964.41**	

vs.

1% Tally:

Four Board Members:	Hours/Mins	Rate		Total	
Florence Sheldon	5.00	$	9.22	$	46.10
Alice Gay	5.00	$	9.22	$	46.10
Slater Smith	5.00	$	9.22	$	46.10
Fern Miller	5.00	$	9.22	$	46.10
Virginia Prince	8.00	$	24.94	$	199.52
		$	-	$	-
		$	-	$	-
Totals	**28.00**			**$ 383.92**	

BACKGROUND

The post canvass risk limiting audit in Marin County of ballots cast in the June 5, 2012 Presidential Primary Election was part of a pilot project on risk limiting audits conducted with the Secretary of State's Office and UC Berkeley professors Philip Stark, Professor of Statistics and David Wagner, Professor of Computer Science.

AUDIT PROCESS

After the June 5th election was certified, the Marin County Elections Department scanned 29,121 ballots from Supervisor Districts 2 and 4 with a Department-owned Fujitsu 5950 scanner. The scanner made an optical image of each side of each ballot and imprinted a number one side of each ballot. Supervisor Districts 2 and 4 were chosen because each districts had a district wide race for County Supervisor contained wholly within it.

The Election Department transmitted the ballot images to Professor David Wagner to prepare a transparency count of the votes on the scanned ballots. A comparison of the winners on the county's Statement of Votes for the districts showed that they were the same as the winners on the transparency count. The remainder of the audit was put on hold until after the November 6, 2012 General Election.

The audit of ballots took place on February 14, 2013. The Elections Office posted a Notice of the audit on its website and front door and sent a copy of the Notice to its Election Advisory Committee. On Feb. 14 the department set up the room for the audit with one laptop computer and printer not connected to the Internet, one desktop computer and printer connected to the Internet to access the audit tools page on the UC Berkeley Dept. of Statistics website, and two projectors and screens for the public to view the ballot images.

The comparison of ballots started at 9:30a.m. There was one public observer present. The Audit Tools report showed that the number of ballots to be audited was 54, based on the number of votes cast in each race and the margin of victory of the candidates. The observer rolled eight 10-sided dice to get a seed number which was then entered into the audit tools to produce the random numbers of the 54 ballots to be compared. Two Elections Dept. staff pulled the ballots in the audit sample from sealed containers while one staff member printed out the results of the transparency count for each ballot. The Observer and Elections Dept. staff compared each ballot with the results from the transparency scan and found that all votes matched. The audit ended at 12:00 p.m.

Cost comparison between risk limiting audit and 1% manual tally

Cost of risk limiting audit	
Cost of scanning ballots	$4,637.54
Cost of transparency audit	$1,447.57
Total Cost	$6,082.11

Cost of 1% audit	$5,154.56

County of Marin
Cost Comparison of Conducting Risk-Limiting Audit vs. 1% Manual Tally
Presidential Primary, June 5, 2012

Risk-Limiting Audit:

	Staff involved	Hours/Mins	Hourly Rate	Total	vs.	**1% Tally:**		Staff involved	Hours/Mins	Hourly Rate	Total
Establishing audit procedures	EG, TA	2.00	(see Risk worksheet)	$ 162.69							
Audit set up (public notice, scheduling, equipment rental):	EG, TA, CW	10.50	(see Risk worksheet)	$ 549.53		Audit set-up:		EG,DB	0.50	(see 1% worksheet)	$ 74.71
Exporting voting system results/creating ballot manifest for audit:	TA	19.90	(see Risk worksheet)	$1,097.66		Printing reports:		TA	0.50	(see 1% worksheet)	$ 27.58
Ballot Scanning (for parallel tally):	TA,CW,4EH	148.60	(see Risk worksheet)	$4,562.54							
Sample size calculation and random draw:	TA,EG,MB	1.50	(see Risk worksheet)	$ 123.44		Random draw:		EG,DB	1.00	(see 1% worksheet)	$ 74.71
Finding particular ballots in the audit sample:	MB,CW	4.00	(see Risk worksheet)	$ 242.24		Finding ballots:		2 EH	8.00	(see 1% worksheet)	$ 228.37
Analysis and reporting:	EG,TA	3.00	(see Risk worksheet)	$ 244.04		1% tally:		8 EH, DB	202.50	(see 1% worksheet)	$5,073.92
Totals		**189.50**		**$6,982.12**		**Totals**			**212.50**		**$5,479.29**