



# New Yorkers for Verified Voting

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## **When Acquisition Costs Become Operating Expenses: Risky New York Guidelines Encourage Disastrous Voting Machine Choices**

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It is well known that New York is under a court mandate to place one accessible ballot marking device at each poll site by the September 2008 primary. The federal judge has supported the Department of Justice in insisting that the state, at last, enable voters with disabilities to vote independently. New York then will be required to replace all lever voting machines by 2009.

Less well-known, however, is the fact that the New York State Board of Elections (BOE) has adopted some very dangerous regulations that will jeopardize the integrity of New York elections and at the same time risk financial disaster for counties following the state guidelines in choosing and implementing new voting systems.

One such regulation has recklessly redefined ballot marking devices to include direct recording electronic (DRE) voting machines. Because counties may spend half of their HAVA funds on mandated accessible machines for 2008, local commissioners favoring a DRE system have persuaded the State Board to offer DREs with their vote counting and recording mechanisms disabled, to act as ballot markers. But DREs, besides not being designed as ballot markers, have been shown to be unreliable and insecure and have failed comprehensive testing in other states.

In addition, the State Board has loosened escrow requirements, all of which opens the door to the same failed technology that has currently been rejected by seven states.<sup>1</sup>

There is another threat to a state and its counties that are trying to rein in record-high tax rates. In the current rush, machines may be chosen without adequate research into the experience of other states with skyrocketing budgets caused by the high operating costs of DREs. Counties need to be warned that they themselves will bear the financial burden if they must buy more machines in order to prevent long lines and avoid voter disenfranchisement if they follow the guidelines recommended by the New York State Board of Elections.

### **Underestimating the Number of DREs Causes Skyrocketing County Budgets**

Counties in other states are finding themselves in “Catch 22” situations where, after exhausting HAVA funds to purchase DRE systems, on the one hand, they do not have the money to continue their maintenance, software, and licensing fees. On the other hand, they cannot afford to switch to the less expensive, but more reliable paper ballot scanner system. The newly revised Holt Bill, “The Confidence in Voting Act of 2008”, in the House of Representatives, aims to provide emergency financial aid to such counties if they have “paperless” DREs, but apparently would not apply to New York’s first efforts to comply with HAVA.

One of the major problems these DRE jurisdictions are encountering is that, in the initial DRE purchase, the number of required machines was greatly underestimated. Too few machines create long lines and serious voter disenfranchisement, and additional machines must be purchased. Ignoring the evidence from other states, the New York Board of Elections currently has under consideration an unrealistic proposal stating that 550 registered voters can be accommodated by one DRE. This underestimation gives county commissioners the misperception that DRE systems are affordable.

Careful cost analysis shows that the limited HAVA funding would not even cover the initial purchase of new DRE voting systems when software, licensing fees, and maintenance packages are included -- even on the basis of the 550 voters per DRE criterion. If, as has been the case in many other jurisdictions, New York counties then

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<sup>1</sup> Seven States have legislated or are introducing legislation to abandon DREs: New Mexico, Maryland, Virginia, Florida, California, Ohio and Tennessee.

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find they need additional touch-screen computers, the acquisition costs (\$9000-\$10,000) must come from the counties.

New Yorkers for Verified Voting has presented several studies demonstrating that voter disenfranchisement can be avoided only with a maximum number of about 200 registered voters per DRE. Nevertheless, the State Board has maintained its unrealistic criterion, basing the 550 figure, in part, on its study of standards for maximum number of voters per machine in other states.

Earlier, NYVV presented a study of other states that confirmed the need for one DRE per 200 registered voters. We now have expanded this study to include many of the states contacted by the New York State Board in arriving at the 550 figure. Significant data on the NYS BOE study can be found in the Appendix.

Clearly, the expanded NYVV study demonstrates not only that the 550 figure proposed by the NYS Board for the number of registered voters is over 2.5 times too high, but it also shows some of the deleterious financial consequences of underestimating the number of DREs needed to run a smooth election.

Once again, empirical data shows that in order to avoid chaos at polling places and voter disenfranchisement, as well as skyrocketing county budgets, the State criterion for the maximum number of voters per DRE should be reduced to 200.

### **A Tale of Two Systems<sup>2</sup>**

The importance of this NYVV research for New York's counties can best be shown through the following example: Belmont Co. was one of the many Ohio counties suffering from the problem of too few DREs to accommodate its registered voters (about 43,800). After many Ohio counties also experienced long lines -- one site with 650 registered voters per DRE, had the longest line recorded (13 hours) in the 2004 election -- Ohio legislated a new, reduced maximum of 175 registered voters per DRE. Belmont Co., however, had insufficient funds to purchase more DREs. At the suggestion of Ohio's Secretary of State, Belmont Elections Director, Bill Shubat, converted two DRE poll sites to a paper ballot optical scan (PBOS) system.

After installing a DRE system in his County, Shubat had seen his operating budget skyrocket from \$140,000 to over \$450,000. Then, in two years, it jumped to over \$800,000. Lacking the funds to buy the additional 100 DREs needed, Shubat purchased 7 scanners to accommodate about 6800 voters in 11 precincts. Leaving two DREs for accessibility at each of the two poll sites, Shubat used the remaining DREs to supplement other polling locations.

Shubat also has concerns about the durability of the DRE machines. While the 5-year warranty covers the DRE legs, hinges, magnifying touch-screen covers and canister teeth that are constantly breaking, what will the cost be when they are no longer covered? The pilot conversions to PBOS are working so well, Shubat intends to expand the system to another poll site, perhaps in time for the 2008 elections.

### **State Board of Elections Studies vs. NYVV Studies**

Twenty-seven states participated in the NYS BOE study. Fourteen were paper-based voting jurisdictions -- having either hand-counted ballots or ballots counted by optical scanners (PBOS) -- while 3 others states, although using DRE systems, did not submit numbers of voters per DRE. The significant findings of the remaining 10 states may be found in Table I of the Appendix.

The NYVV study consists of 18 counties from 11 states, 7 of which participated in the State study. The significant data from the NYVV study can be found in Table II of the Appendix.

The two significant differences in the studies relate to Virginia and Louisiana. Two Virginia jurisdictions contacted, Arlington and Henrico, both informed NYVV that the 750 statute cited in the State BOE study was an outdated criterion, referring to the number of registered voters per *lever* machine. No new statute was

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<sup>2</sup> Belmont County, Ohio, not listed in the data sheet, is unique in that it has some poll sites with DRE systems and some with PBOS systems. Bill Shubat, 740-526-0188, is Elections Director.

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established for DRE's or optical scanners, but, as seen in the data from these counties, Arlington has 386 registered voters per DRE and Henrico, 256.

The second difference is the state statute for Louisiana, which the New York State survey lists as 600 registered voters per DRE. In contacting East Baton Rouge, LA, NYVV was informed that this statute was changed. Previously it stated the maximum as 400 to 600 registered voters per DRE. However, the latest Louisiana state report set the maximum at 400 registered voters per DRE.

These differences in our findings greatly reduce the average for the maximum numbers of voters per DRE as cited in the NEW YORK State study.

### **Observations Noted in the Two Studies**

Looking at all the numbers listed in the significant data in both the NYS BOE and the NYVV studies, as well as other data presented in this expanded research (See Appendix, Table III) we can observe the following facts:

- All of the jurisdictions listing updated actual numbers of registered voters per DRE above 250 do not have a voter verifiable audit paper trail (VVPAT) to check. New York State has acknowledged verifying a VVPAT will add to the time NEW YORK voters will need to vote.
- Two of the counties listing relatively high numbers of registered voters per DRE, Laramie, WY and Goshen, WY at 206 and 304 respectively, are actually dual system counties, offering both a DRE and a PBOS voting system. Naturally, since many voters will use the PBOS system, this greatly reduces the actual number of voters using the DRE.
- All counties contacted established numbers of DREs based on their highest turnouts, which were 70% or higher. (The New York State Board set its criterion based on a 50% turnout.)
- No county -- even those lacking a VVPAT -- had more than 407 registered voters per DRE.
- All single system DRE counties with more than 200 registered voters per DRE experienced long lines at some point in voting except E. Baton Rouge, LA which has no VVPAT and has Early Voting.
- Observing data from both studies, the average number of registered voters per DRE for all single system DRE counties with VVPATs is 180.

### **Minor Technical Problems Can Cause Major Delays**

The State Board timing studies have not taken into consideration some common minor technical difficulties in operating a DRE that can significantly influence the wait time in an election. For instance, several counties in the NYVV research cited problems with changing paper rolls for the VVPAT. Two cited this problem as a cause of very long lines in the 2006 election, when the VVPAT paper ran out. Changing the paper proved to be such a problem that three counties set up special teams trained in changing the rolls. Two of the teams used vendor technicians. Another county reduced font size of the VVPAT so that it would not have to be changed during elections, and one county went so far as to purchase two printers for each DRE because it was much easier, and more secure, to change the printers rather than the paper rolls. One need only look to Philadelphia's 2006 primary to see the havoc that a simple problem like faulty VVPAT rolls could cause. One hundred poll sites were closed all morning because the poll workers could not set the rolls to function properly.

### **New York Must Heed the Experience of Other States**

This expanded study even more clearly demonstrates not only that 550 registered voters per DRE would lead to long lines and voter disenfranchisement, but that it would also lead to soaring operating expenses for counties that must purchase additional needed DREs.

In choosing systems, commissioners must take a careful look at this and other data from states who have experienced the election failures and financial burdens of DRE systems, or the State Board's reckless and blind-sighted guidelines for purchasing ballot markers and voting machines will lead counties down a path of election fiascos and skyrocketing budgets.

# Appendix

**Table I -- "Selected Survey Highlights from the NYS BOE Various States Data"**

| <b>IN BRIEF - SELECTED SURVEY HIGHLIGHTS</b> |  |   |   |
|--|--|---|---|
| <b>STATE</b>                                 | <b>Min # DRE's Required in an Election District</b>          | <b>Max # Voters on a DRE</b>                        | <b>VVPAT</b>                                |
| CA   | No state law; adhere to HAVA: 1 unit per precinct            | No maximum defined                                  | Yes   |
| FL   | 1 per polling place  | 120 (est.)  | No - legislation pending                    |
| IA   | 1 per 350 voters in the previous, similar election           | n/a   | No - legislation pending & expected to pass |
| LA   | 1  | 600 for AVC Advantage                               | No  |
| MD   | 2 units or 1 unit for every 200 voters, whichever is greater | No maximum defined                                  | No  |
| NC   | 1  | 1 per 250 registered voters                         | Yes   |
| SC   | 2  | 250 per DRE or as near as practicable               | No  |
| UT   | n/a  | n/a   | Yes   |
| VA   | 1 per 750 registered voters                                  | No precinct may have more than 5,000 voters per DRE | No  |
| WY   | 1 per polling place  | Unlimited   | Yes   |

**Table II -- "State Timing Data: States in NY VV Study, Significant Data"**

| County                      | Vendor and DRE Model                   | Registered Voters                     | State Statutes/Regulations For No. Voters per Machine                             | VVPAT | Average No. of Registered Voters per DRE |
|-----------------------------|--|---------------------------------------|---|-------|--|
| CA, Monterey                | Sequoia AVC Edge                       | 144,625                               | Statute on Pct #s: A Pct with fewer than 250 reg. voters may have forced mail-in. | yes   | <b>178</b>                               |
| CA, Napa                    | Sequoia AVC Edge I                     | App 65,000                            | Statute on Pct. #s Napa: 300 Voters/DRE   | yes   | <b>186</b>                               |
| CO, Cheyenne                | Hart eSlate                            | 1277                                  |   | Yes   | <b>213</b>                               |
| FL, Palm Beach              | Sequoia Edge                           | 779,748                               |   | No    | <b>175</b>                               |
| LA, East Baton Rouge Parish | Sequoia AVC Adv Edge for E.V.          | 249,698                               | 400 Reg Voters/DRE, 3min max  | No    | <b>366</b>                               |
| LA, St. Landry Parish       | Sequoia AVC Adv Edge for E.V.          | 58,742                                | 400 Reg Voters/DRE, 3min max  | No    | <b>323</b>                               |
| LA, St Tammany Parish       | Sequoia AVC Adv Edge for E.V.          | 146,081                               | 400 Reg Voters/DRE, 3min max  | No    | <b>407</b>                               |
| NV, Carson City             | Sequoia AVC Edge                       | 25,000                                | N/A   | Yes   | <b>184</b>                               |
| NV, Esmeralda               | Sequoia Edge                           | 667                                   | N/A   | Yes   | <b>74</b>                                |
| NV, Clark                   | Sequoia Edge II                        | 803,808                               | N/A   | Yes   | <b>179</b>                               |
| SC, Charleston              | ES&S iVotronic                         | 181,801 active                        | 250 reg voters per DRE  | No    | <b>204</b>                               |
| TN, Lincoln                 | ES&S iVotronic                         | 18,000                                | N/A   | No    | <b>328</b>                               |
| UT, Davis                   | Diebold Accuvote Tsx                   | 158,000 (total)<br>146,000 (active)   | State gave 1 DRE per 175 registered voters  | yes   | <b>175</b>                               |
| VA, Arlington               | ADV Voting Solutions                   | 127,000.<br>120,000 active reg voters | 750 per lever machine or privacy booth <sup>1</sup>                               | No    | <b>388</b>                               |
| VA, Henrico                 | ADV Voting Solutions                   | 174,000                               | 750 per lever machine or privacy booth <sup>1</sup>                               | No    | <b>256</b>                               |
| WY, Laramie                 | Diebold Accuvote Tsx & Optical scanner | 34,900 active in 2007. 42,000 in 2006 | N/A   | yes   | <b>206</b>                               |
| WY, Goshen                  | Diebold Accuvote Tsx & Optical scanner | App 7,000                             | N/A   | yes   | <b>304</b>                               |

Table III

| County                      | Vendor and DRE Model                   | Registered Voters                     | Precincts             | Poll Sites       | No. of DREs                                     | State Statutes/Regulations For No. of Voters per Machine | VVPAT | Early Voting (E-V) Period Length          | Number of Early Voters | Absentee Ballot Excuse Type                  | No. of Absentee Ballots                     | Hours in Election Day | Average No. of Registered Voters per DRE | App. No. of Voters per DRE on Election Day | Waiting Times in Lines   | Comments  | Contact Name                               | Contact Phone     | Contact Date |
|-----------------------------|--|---------------------------------------|-----------------------|------------------|---|--|-------|---|------------------------|--|---|-----------------------|--|--|--|---|--|-------------------|--------------|
| CA, Monterey                | Sequoia AVC Edge                       | 144,625                               | 184 total, 60 by mail | 124 <sup>3</sup> | 430 with 860 printers for VVPAT                 | Statute on Precinct Numbers <sup>4</sup>                 | yes   | In-person Absentee: 29 days               | N/A                    | N/A  | App 52,000 in 2006                          | 13                    | 178 <sup>5</sup>                         | less than 142 <sup>6</sup>                 | Long lines in 2006 due to paper for VVPATs running out; required technician to change. | County purchased extra DREs and enough printers to have 2 per DRE to avoid changing paper rolls. 80% turnout in presidential elections. Audio + sip & puff for Disabled.    | Linda Tulett, Registrar                    | 831-796-1499      | 9/12/07      |
| CA, Napa                    | Sequoia AVC Edge I                     | App 65,000                            | 114 total, 15 by mail | 96               | 350   | Statute on Pct. #s. <sup>4</sup> Napa: 300 Voters/DRE    | yes   | In-person Absentee: 29 days               | N/A                    | N/A  | 40% vote by mail (mail-in pcts + absentee)  | 13                    | 186                                      | 100  | Long lines in 2006 due to long ballot & changing VVPAT rolls.                          | Suggested having reserve DRE at poll site, and maximum of 100 poll site voters in presidential elections or elections with long ballots. 80% vote.                          | John Tulett, County Clerk                  | 707-253-4321      | 9/12/07      |
| CO, Cheyenne                | Hart eSlate                            | 1277                                  | 5                     | 2                | 6 for Early Voting)                             | (1   | Yes   | 7-10 days                                 | 178                    | No Excuse                                    | 308   | 12                    | 213                                      | 84   | Up to 60 minutes   | Approximate Usage Times cited are: 5 minutes for general voters 40 minutes for disabled voters  | Kay Feyh, Co Clerk                         | 719-767-5685      | 4/23/07      |
| FL, Palm Beach              | Sequoia Edge                           | 779,748                               | 767                   | N/A              | 4463  |  | No    | 15 days                                   | 60 to 70,000           | No Excuse                                    | 60 to 70,000                                | 12                    | 175                                      | 100  | Lines during peak hours in 2004  | Usage Time for disabled voter 15 - 30 minutes. About 75% turnout in 2004. Not all DREs were accessible, none had Sip & Puff   | Tony Enos, Manager                         | 561-656-6227      | 4/24/07      |
| LA, East Baton Rouge Parish | Sequoia AVC Adv Edge for E.V.          | 249,698                               | 315                   | N/A              | 682. Deploy: 640 Election Day, 20-22 for E.V.   | 400 Reg Voters/DRE <sup>2</sup> , 3min max               | No    | 7 days                                    | app 6000               | No Excuse                                    | N/A   | 14                    | 366                                      | 264  | Short lines on E.D. Up to 20min wait during Early Voting                               | 70% turnout in presidential elections. 3-4 sites for E. V.; state may increase E.V. to 14 days. Audio + sip & puff for disabled   | Michael West, IT Analyst                   | 225-922-2486 x633 | 9/6/07       |
| LA, St. Landry Parish       | Sequoia AVC Adv Edge for E.V.          | 58,742                                | 87                    | N/A              | 182   | 400 Reg Voters/DRE <sup>2</sup> , 3min max               | No    | 7 days                                    | N/A                    | No Excuse                                    | N/A   | 14                    | 323                                      | less than 226                              | Long lines during Early Voting   | Up to 70% turnout in presidential elections. State considering increasing Early Voting to 14 days. Audio + sip & puff for disabled  | Michael West, IT Analyst in E. Baton Rouge | 225-922-2486 x633 | 9/11/07      |
| LA, St Tammany Parish       | Sequoia AVC Adv Edge for E.V.          | 146,081                               | 149                   | N/A              | 359   | 400 Reg Voters/DRE <sup>2</sup> , 3min max               | No    | 7 days                                    | N/A                    | No Excuse                                    | N/A   | 14                    | 407                                      | less than 285                              | Long lines during Early Voting: have had up to 3hr wait.                               | Up to 70% turnout in presidential elections. State considering increasing Early Voting to 14 days. Audio + sip & puff for disabled  | Michael West, IT Analyst in E. Baton Rouge | 225-922-2486 x633 | 9/11/07      |
| NV, Carson City             | Sequoia AVC Edge                       | 25,000                                | 26                    | 2                | 136   | N/A  | Yes   | 12 days                                   | App. 50% of voters     | No Excuse                                    | 2500 2004)                                  | (in 12                | 184                                      | 100  | No Waiting   | Takes a minimum of 4 minutes to vote. Usage Time for disabled voter app. 30 minutes.  | Alan Glover, County Clerk                  | 775-887-2087      | 4/23/07      |
| NV, Clark                   | Sequoia Edge II                        | 803,808                               | 1090                  | 336              | App. 4500                                       | N/A  | Yes   | 14 days                                   | App. 50% of voters     | No Excuse                                    | N/A   | 12                    | 179                                      | 100  | 5 minute wait maximum  | Approximate Usage Times cited are: 5 to 20 minutes for general voters 30 to 40 minutes for disabled voters 80% turnout in presidential elections.                           | Steve Pak, Registrar's Asst                | 702-455-2846      | 4/24/07      |
| NV, Esmeralda               | Sequoia Edge                           | 667                                   | 5                     | 3                | 9   | N/A  | Yes   | 12 days                                   | N/A                    | No Excuse                                    | N/A   | 12                    | 74                                       | 67   | Small lines  | 7 DREs are used at 3 polling sites. DREs are used for Early Voting.   | Lacinda Elgan, County Clerk                | 775-485-6367      | 4/26/07      |
| SC, Charleston              | ES&S Ivotronic                         | 181,801 active                        | 182                   | 114              | 890   | 250 reg voters per DRE                                   | No    | In-person absentee, 45 days               | N/A                    | Limited, but 17 reasons                      | 16,000                                      | 12                    | 204                                      | 144  | Always 45min- 1hr at peak hours in general elections                                   | 70-77% turnout in presidential elections. Audio for disabled. Extra DREs available. County divided into zones, each with roving tech team.                                  | Marilyn Bowers, Executive Director         | 843-745-2277      | 9/19/07      |
| TN, Lincoln                 | ES&S Ivotronic                         | 18,000                                | 20                    | N/A              | 55  | N/A  | No    | 2 weeks                                   | N/A                    | Excuse                                       | N/A   | 10                    | 328                                      | N/A  | Up to 30 minutes   | Always have at least 2 DREs at each site in case one fails  | Sheila Allen, Commissioner                 | 931-433-6220      | 4/23/07      |
| UT, Davis                   | Diebold Accuvote Tsx                   | 158,000 (total) 146,000 (active)      | 220                   | 95               | 833   | State gave 1 DRE per 175 registered voters               | yes   | 10 days minimum                           | 12%                    | No excuse                                    | 7 - 8 %                                     | 13                    | 175                                      | 116  | None in 2006 (1st yr with DREs)  | 80 - 85% turnout for presidential election; concerned about lines. Will purchase/rent more DREs. DRE Tech & manager needed to change VVPAT.                                 | Pat Beckstead, Election Director           | 801-451-3213      | 9/15/07      |
| VA, Arlington               | ADV Voting Solutions                   | 127,000. 120,000 active reg voters    | 50                    | N/A              | 309   | 750 per lever machine or privacy booth <sup>1</sup>      | No    | No  | N/A                    | Valid excuse, may vote at site 45 days prior | 15,000                                      | 13                    | 388                                      | 298  | Long lines in morning  | Request submitted for more DREs. Objective to deploy 400DREs, achieving 300 reg voters/DRE. Audio for disabled. 77 - 80% turnout in presidential elections.                 | Linda Lindberg, Registrar                  | 703-228-3456      | 9/4/07       |
| VA, Henrico                 | ADV Voting Solutions                   | 174,000                               | 91                    | N/A              | 680 in use, 120 backup                          | 750 per lever machine or privacy booth <sup>1</sup>      | No    | No  | N/A                    | Valid excuse, may vote at site 45 days prior | N/A   | 13                    | 256                                      | 180  | Had lines to check in.   | 70% turnout in presidential election. Audio for disabled  | Mark Coakley                               | 804-501-4347      | 9/5/07       |
| WY, Laramie                 | Diebold Accuvote Tsx & Optical scanner | 34,900 active in 2007, 42,000 in 2006 | 60                    | 48               | 170 DREs (+ 48 optical scanners. One/poll site) | (+ N/A)  | yes   | In-person Absentee: 40 days               | App.8500               | No Excuse                                    | N/A   | 12                    | 206                                      | Less than 155 <sup>7</sup>                 | Long lines during last week of Early Voting (In-person absentee)                       | Due to same day registration, can have 101% turnout. However, many voters are using paper ballots & scanner, or voted early. Audio + sip & puff + rocker pads for disabled. | Debbie Valdez-Ortiz, Election Manager      | 307-633-4268      | 9/11/07      |
| WY, Goshen                  | Diebold Accuvote Tsx & Optical scanner | App 7,000                             | 20                    | 11               | 23 DREs (+ 13 optical scanners)                 | (+ N/A)  | yes   | In-person Absentee: 45 days (Ballot only) | N/A                    | No Excuse                                    | 809 including ballots mailed or voted early | 12                    | 304                                      | Less than 233 <sup>7</sup>                 | 15min lines in some pcts with voters using DREs.                                       | 85 - 88% turnout in presidential election. Same day registration. Audio for disabled.   | Connie Addy, County Clerk                  | 307-532-4051      | 9/11/07      |

Footnotes:

<sup>1</sup> VA: This State statute was legislated when lever machines and punch cards were the voting systems in use. No new statutes have been established for DREs or Optical Scan systems.

<sup>2</sup> LA: The latest State Guidelines changed the allocation from 400-600 registered voters per DRE to a straight 400 registered voters per DRE.

<sup>3</sup> CA: 124 poll sites are set up in 98 locations; sometimes two sites at the same location.

<sup>4</sup> CA: If fewer than 250 reg. voters in pct., County may have forced mail-in.

<sup>5</sup> CA: 68,341 voters are permanently registered to vote absentee by mail.

<sup>6</sup> CA: This number includes voters not actually voting at polls, but are in pcts forced to vote by mail.

<sup>7</sup> WY: Since County has a dual system, this number includes many poll site voters who are actually using PBOS system.