COUNTY OF LOS ANGELES
REGISTRAR-RECORDER/COUNTY CLERK
12400 IMPERIAL HWY. – P.O. BOX 1024, NORWALK, CALIFORNIA 90651-1024 (562) 462-2716

CONNY B. McCORMACK
Registrar-Recorder/County Clerk

January 29, 2007

TO: Each Supervisor

FROM: Conny B. McCormack, Registrar-Recorder/County Clerk CBM

NOVEMBER 2006 ELECTION REPORT: MANUAL-TO-MACHINE COUNT COMPARISON OF A SAMPLE OF ABSENTEE BALLOTS

Introduction

This is the final of three post-election reports of ballot tabulation audits of the November 7, 2006 General Election. The first two reports were sent to your Board last month in response to Board motions to audit 1) the votes cast on 5% of the Direct Record Electronic (DRE or Touchscreen) devices used for early voting in conjunction with that election, and 2) the unofficial "snap tallies" conducted by media on November 7th. In contrast to the above-mentioned reports, this report was initiated by our office and involved a manual-to-machine count comparison of a sample of absentee ballots. This absentee ballot audit afforded an additional means of highlighting the transparency, accuracy and integrity of all aspects of the County's ballot tabulation process. A chart describing the parameters of these three audits, in addition to the state-mandated manual-to-machine count audit of all ballots cast in a randomly selected 1% of the voting precincts, is found at Addendum 1.

The Absentee Ballot Audit

The RR/CC voluntarily, and with prior public notice and significant public participation, conducted a manual-to-machine count comparison of the results of several election contests on a randomly selected 1% of the absentee ballots that were tabulated on election night. The sample set of absentee ballots was selected in this manner in order to conduct this review as soon as practicable following election night (i.e. absentee ballot counting continues in the days and weeks following the election). Because 370,825 absentee ballots were counted on election night, the target quantity of 1% absentee ballots for the manual count comparison was established at 3,700.

Absentee ballots are currently counted by individual ballot groups and not by precincts (however, beginning with the 2008 elections, new State law will require more complex precinct-level tabulation of absentee ballots). Drawing 3,700 absentee ballots randomly from absentee ballot storage trays was not practical for this voluntary audit because hundreds of different ballot groups would have been involved. That would have hampered the ability to conduct a manual count comparison and greatly increased the time needed to complete it. Therefore, the random selection limited the number of ballot groups involved while still guaranteeing a significant number of ballots would be manually tallied in each group to achieve a viable comparison with the machine tally.

Two ballot groups were randomly selected from the 50 most voluminous, in terms of number of ballots cast, of the 517 ballot groups involved in the election. The list of all ballot groups in the November 2006 General Election, and the 50 most voluminous that were included in the random draw, is provided in Appendix A.

The selection of contests to examine in the manual count comparison was limited to countywide contests only, excluding judicial contests, to ensure that every selected contest would be on every ballot and that there would be a significant number of votes for the comparison (judicial contests typically have high rates of under voting or no votes cast). To further assure the feasibility of conducting the audit during a single day for the convenience of citizen observers, only one randomly selected contest was examined for each selected ballot group. The list of all contests contained in the random drawing is provided in Appendix B.

The ballot groups and contests were printed on individually folded slips of paper and placed in transparent containers on November 13, 2006. The random drawing of ballot groups and contests to audit was performed by citizen observers that day. The results of the random drawing of ballot groups and contests are provided in the table below.

Ballot Group	Contest Examined
360	Proposition 1C
378	Proposition 1D

Obtaining Automated Absentee Ballot Tallies For Comparison

Once the random drawing of ballot groups by citizen observers was finalized, elections staff began the laborious process of extracting ballots belonging to these ballot groups from the absentee ballots that were counted on election night until the total number of extracted ballots reached the 3,700 target sample. To accomplish this extraction, ballot card readers were configured to halt each time a ballot was identified from one of the selected ballot group numbers. This process eventually yielded slightly more than 1,500 ballots for ballot group 378, and just over 2,200 ballots for ballot group 360.

To further facilitate precision to the process of manually tallying these ballots, the number of ballots for these groups was further randomly reduced to exactly 1,500 and 2,200 for ballot groups 378 and 360, respectively. Subsequently, the ballot groups were divided into sub-groups of 300 ballots each, except for one with 100 ballots. Subdividing down to 300 ballots approximated the ballot counts in a typical voting precinct for this election and also enabled the manual counts to be recorded on a single manual tally sheet. All of these processes were open to public observation.

In order to compare the manual tally of these sub-groups to a machine count, each of the sub-groups was separately machine counted on the County's Microcomputer Tally System (MTS). Then a summary report was printed that showed the machine count for each sub-group. A detailed description of the procedures is provided in Appendix C.

1% Manual Count Comparison of Absentee Ballots

The results of the manual tally, as shown in the tables below by ballot group, subdivision, and contest, show a small range of variance (+1 to +4) between the manual and machine count, with many revealing no difference.

Ballot Group: 360
Ballot Count: 2200
Contest: Proposition 1C

Ballot Group - Subdivision	Ballot Count	Yes (Manual)	Yes (Machine)	Yes Diff.	No (Manual)	No (Machine)	No Diff.	Over Votes	Under Votes
360-A	300	133	133	0	146	146	0	0	20
360-B	300	135	135	0	140	139	+1	0	25
360-C	300	128	127	+1	142	142	0	0	30
360-D	300	123	121	+2	152	152	0	0	25
360-E	300	134	131	+3	146	145	+1	0	20
360-F	300	133	132	+1	150	150	0	0	16
360-G	300	127	125	+2	153	150	+3	0	20
360-H	100	49	49	0	46	46	0	0	5

Ballot Group: 378
Ballot Count: 1500
Contest: Proposition 1D

Ballot Group - Subdivision	Ballot Count	Yes (Manual)	Yes (Machine)	Yes Diff.	No (Manual)	No (Machine)	No Diff.	Over Votes	Under Votes
378-A	300	167	166	+1	99	98	+1	1	33
378-B	300	175	171	+4	94	94	0	0	31
378-C	300	174	173	+1	103	102	+1	0	23
378-D	300	174	170	+4	103	102	+1	0	23
378-E	300	169	166	+3	95	91	+4	0	36

Persons performing the manual tally identified a small number of apparent votes whereas the computer count did not. While some of this variance could be attributed to human error in the vote reading or tallying, a review of the ballots suggested that several of the vote marks were faint such that they might or might not have been intended votes. However, persons conducting the manual tally made the subjective determination to count the marks as intended votes whereas such marks did not reach the threshold of the fully-tested and legally-certified MTS optical scan tally system.

Additionally, unlike ballots cast at the precinct with a designated InkaVote pen, absentee voters do not always follow instructions to mark the ballot with a black or dark blue pen. Marks made with pencil or light-colored ink are more difficult to detect by the optical read heads. Faint, displaced or otherwise faulty vote marks have the potential to be misinterpreted both by the automated card readers and/or by the human eye. Such

situations can and do occasionally occur, thereby causing a very small variance between the machine and manual tally.

Conclusion

On November 13, 2006, the Registrar-Recorder/County Clerk department voluntarily conducted a manual-to-machine count comparison of a randomly-selected subset of absentee ballots cast in conjunction with the November 7, 2006 General Election. A number of citizen observers were present and participated in the random drawing of selected absentee ballots for this auditing process. Although the manual-to-machine count comparison of ballot tally systems revealed miniscule variations (as do most such comparisons), the overall results of this audit confirmed the accuracy of the County's vote tabulation system.

Appendix A

Ballot Group Ballot Totals for Absentee Ballots Counted on Election Day, Ranked by Number of Ballots Cast
November 7, 2006 Gubernatorial General Election

(Note: Top 50 ballot groups shaded in blue were used in the random drawing of ballot groups.)

Rank	Ballot Group	Ballots Cast
1	116	12148
2	342	9905
3	72	8708
4	344	8555
5	139	8247
6	97	7913
7	356	7789
8	102	7214
9	7	7092
10	354	6587
11	92	6318
12	52	6249
13	420	5836
14	68	5723
15	204	5581
16	39	5549
17	90	5265
18	360	4686
19	476	4362
20	77	4176
21	393	4158
22	483	4139
23	38	3943
24	355	3895
25	137	3785
26	374	3589
27	3	3582
28	40	3508
29	386	3484
30	237	3149
31	378	3143

Rank	Ballot Group	Ballots Cast
32	275	3134
33	506	2998
34	109	2951
35	338	2808
36	84	2783
37	281	2762
38	392	2746
39	111	2737
40	135	2701
41	100	2647
42	502	2634
43	83	2617
44	482	2611
45	129	2554
46	81	2506
47	8	2490
48	202	2473
49	220	2471
50	101	2455
51	142	2436
52	178	2362
53	104	2346
54	29	2309
55	252	2304
56	351	2300
57	239	2283
58	397	2280
59	151	2217
60	70	2111
61	340	1873
62	458	1843

Rank	Ballot Group	Ballots Cast
63	453	1736
64	369	1683
65	454	1683
66	276	1663
67	63	1645
68	140	1628
69	243	1594
70	496	1584
71	89	1579
72	130	1504
73	194	1466
74	205	1433
75	113	1399
76	233	1392
77	45	1373
78	426	1365
79	409	1289
80	313	1260
81	469	1225
82	504	1223
83	53	1211
84	284	1176
85	231	1173
86	416	1165
87	193	1144
88	345	1143
89	21	1115
90	229	1102
91	238	1080
92	192	1073
93	125	1068

Rank	Ballot Group	Ballots Cast
94	221	1065
95	114	1062
96	93	1049
97	227	1030
98	485	1028
99	210	1012
100	98	996
101	436	939
102	85	932
103	516	924
104	149	923
105	486	901
106	334	893
107	365	892
108	95	876
109	203	863
110	462	847
111	242	835
112	353	806
113	492	795
114	191	794
115	159	793
116	59	789
117	147	762
118	327	738
119	105	736
120	510	735
121	79	722
122	259	709
123	154	697
124	157	690
125	439	689
126	319	685
127	515	659
128	268	653
129	213	652
130	391	613
131	395	603
132	339	597

Rank	Ballot Group	Ballots Cast
133	394	591
134	73	589
135	224	589
136	264	582
137	209	580
138	190	575
139	445	566
140	505	562
141	56	548
142	164	548
143	75	541
144	112	522
145	446	512
146	352	496
147	184	487
148	487	475
149	507	470
150	466	456
151	343	445
152	357	445
153	465	439
154	153	434
155	304	433
156	67	429
157	171	425
158	260	423
159	428	418
160	223	409
161	177	407
162	246	407
163	169	399
164	127	393
165	307	392
166	216	390
167	348	364
168	287	360
169	421	358
170	497	358
171	440	352

Rank	Ballot Group	Ballots Cast
172	448	345
173	258	343
174	358	342
175	86	339
176	295	336
177	377	326
178	143	323
179	71	322
180	402	321
181	152	317
182	158	316
183	282	315
184	146	310
185	288	308
186	254	299
187	166	287
188	455	287
189	457	286
190	513	284
191	438	281
192	512	271
193	145	262
194	255	258
195	449	254
196	331	240
197	14	235
198	471	226
199	133	221
200	359	216
201	36	215
202	387	201
203	398	201
204	484	201
205	508	201
206	306	199
207	62	197
208	346	193
209	316	189
210	396	187

Rank	Ballot Group	Ballots Cast
211	17	186
212	155	184
213	150	182
214	257	181
215	289	165
216	27	163
217	432	163
218	277	162
219	161	161
220	172	161
221	419	160
222	290	153
223	498	153
224	201	150
225	211	145
226	310	145
227	66	143
228	138	143
229	126	141
230	88	138
231	222	137
232	311	135
233	253	126
234	262	126
235	366	120
236	120	119
237	4	116
238	301	116
239	477	116
240	468	113
241	197	109
242	291	107
243	37	106
244	46	106
245	241	106
246	234	105
247	463	105
248	13	100
249	321	99

Rank	Ballot Group	Ballots Cast
250	131	98
251	384	97
252	35	96
253	271	95
254	163	94
255	175	94
256	165	92
257	408	91
258	28	90
259	444	90
260	298	89
261	283	86
262	294	85
263	372	82
264	435	82
265	19	78
266	410	78
267	511	75
268	185	74
269	272	74
270	443	74
271	107	73
272	123	72
273	349	72
274	405	70
275	18	68
276	381	66
277	383	66
278	110	65
279	470	65
280	25	64
281	385	63
282	61	62
283	174	62
284	181	62
285	212	62
286	514	62
287	199	61
288	341	61

Rank	Ballot Group	Ballots Cast
289	305	60
290	76	59
291	489	59
292	218	58
293	219	58
294	250	58
295	54	57
296	176	57
297	375	57
298	451	57
299	472	56
300	198	55
301	226	55
302	326	55
303	467	55
304	47	54
305	182	54
306	308	54
307	350	53
308	399	53
309	217	52
310	422	52
311	447	52
312	118	51
313	55	50
314	292	50
315	296	50
316	303	48
317	6	46
318	42	46
319	124	46
320	87	45
321	180	45
322	121	44
323	495	43
324	173	40
325	188	40
326	286	40
327	329	40

Rank	Ballot Group	Ballots Cast
328	450	40
329	31	39
330	267	39
331	379	39
332	413	39
333	452	39
334	10	38
335	330	38
336	337	38
337	57	37
338	179	34
339	228	34
340	370	34
341	460	34
342	12	32
343	30	32
344	251	32
345	274	32
346	106	31
347	266	31
348	58	29
349	22	28
350	400	28
351	509	28
352	91	27
353	208	27
354	189	26
355	323	26
356	80	24
357	423	24
358	167	23
359	206	23
360	273	23
361	115	22
362	248	22
363	362	22
364	162	21
365	309	21
366	406	21

Rank	Ballot Group	Ballots Cast
367	437	20
368	122	19
369	156	19
370	442	19
371	43	18
372	108	18
373	324	18
374	433	17
375	148	16
376	320	16
377	183	15
378	322	15
379	418	15
380	119	14
381	299	14
382	300	14
383	317	14
384	367	14
385	501	13
386	269	12
387	279	12
388	225	11
389	280	11
390	247	10
391	332	10
392	417	10
393	499	8
394	132	7
395	270	7
396	186	6
397	214	6
398	278	6
399	441	6
400	60	5
401	404	5
402	461	5
403	488	5
404	23	4
405	297	4

Rank	Ballot Group	Ballots Cast
406	325	4
407	335	4
408	389	4
409	473	4
410	44	3
411	187	3
412	236	3
413	388	3
414	128	2
415	200	2
416	293	2
417	382	2
418	456	2
419	5	1
420	69	1
421	195	1
422	230	1
423	333	1
424	361	1
425	363	1
426	373	1
427	403	1
428	414	1
429	500	1
430	1	0
431	2	0
432	9	0
433	11	0
434	15	0
435	16	0
436	20	0
437	24	0
438	26	0
439	32	0
440	33	0
441	34	0
442	41	0
443	48	0
444	49	0

Rank	Ballot Group	Ballots Cast
445	50	0
446	51	0
447	64	0
448	65	0
449	74	0
450	78	0
451	82	0
452	94	0
453	96	0
454	99	0
455	103	0
456	117	0
457	134	0
458	136	0
459	141	0
460	144	0
461	160	0
462	168	0
463	170	0
464	196	0
465	207	0
466	215	0
467	232	0
468	235	0
469	240	0
470	244	0
471	245	0
472	249	0
473	256	0
474	261	0
475	263	0
476	265	0
477	285	0
478	302	0
479	312	0
480	314	0
481	315	0
482	318	0
483	328	0

Rank	Ballot Group	Ballots Cast
484	336	0
485	347	0
486	364	0
487	368	0
488	371	0
489	376	0
490	380	0
491	390	0
492	401	0
493	407	0
494	411	0
495	412	0
496	415	0
497	424	0
498	425	0
499	427	0
500	429	0
501	430	0
502	431	0
503	434	0
504	459	0
505	464	0
506	474	0
507	475	0
508	478	0
509	479	0
510	480	0
511	481	0
512	490	0
513	491	0
514	493	0
515	494	0
516	503	0
517	517	0

Appendix B

List of Contests in Random Contest Drawing for 1% Absentee Voter Manual Count Comparison for the November 7, 2006 Gubernatorial General Election

Governor
Lt. Governor
Secretary of State
Controller
Treasurer
Attorney General
Insurance Commissioner
U.S. Senate
Proposition 1A
Proposition 1B
Proposition 1C
Proposition 1D
Proposition 1E
Proposition 83
Proposition 84
Proposition 85
Proposition 86
Proposition 87
Proposition 88
Proposition 89
Proposition 90

Appendix C

Procedures for 1% Absentee Voter Manual Tally
November 7, 2006 Gubernatorial General Election

Random Selection – November 13, 2006
Manual Count Comparison beginning November 20, 2006

1. Welcome and Introduction
2. Brief description of the manual audit process.
   a. 1% applies to absent voter (AV) ballots counted in the election night tally only. Since 370,825 AV ballots were included in the election night tally, the manual tally will be performed on no fewer than 3,700 AV ballots.
   b. Once started, the manual tally may take a few days to complete.
   c. Ballot group and contest selection is scheduled early to allow time for preparation of tally materials.
   d. Manual tally will begin on Monday, November 20th continuing through November 22nd as needed.
3. Staff will produce a report from the Micro-Tally System (MTS) of AV ballot groups ranked by number of ballots counted in the election night tally.
4. Two ballot groups will be randomly selected from paper slips created for the 50 ballot groups with the largest number of ballots counted.
5. One contest per ballot group will be selected from paper slips created for all non-judicial countywide contests appearing on the ballot.
6. Staff will prepare header cards for the two ballot groups selected.
7. All AV ballots included in the election night tally will be pulled from the secure ballot cabinets in the MTS room and prepared for sorting using MTS card readers.
8. Using the header cards, card readers on at least two MTS systems will be configured to stop on the ballots identified in selected ballot groups.
9. Staff will run the AV ballots through the MTS card readers to select and sort ballots for the selected ballot groups. Once the target group of 1% of AV ballots included in the election night tally has been reached, the selection and sorting process will be stopped.
10. All ballots not selected in the target group for manual comparison will be returned to secure storage.
11. The number of ballot cards for each ballot group will be hand counted and recorded by the audit staff.
12. Header cards will be placed in front of each of the sorted AV ballot groups.
13. One MTS system and card reader will be taken off line and prepared to run an isolated tally of the selected target group of ballots.
14. The selected AV ballots with header cards will be run through the card reader.
15. The MTS system will produce vote totals by contest for each of the selected ballot groups.

16. The number of ballots on the MTS report will be compared to the hand count of each ballot group. If the numbers do not match, the ballots will be read and counted again until they are reconciled.
17. The 1% AV manual process moves to the manual tally area in the Registrar's conference room on the 7th Floor.
18. Audit teams, led by a manual tally supervisor from the Election Planning Division, begin the manual tally of the AV ballots.
19. The final report from the manual tally will be compared to the MTS produced tally. Any variances will be analyzed and a report will be prepared on the outcome of the manual audit proceedings.

ADDENDUM 1

VOTING SYSTEM INTEGRITY ACTIVITIES IN L.A. COUNTY

November 7, 2006 GENERAL ELECTION

The California Elections Code requires each local election official to conduct a manual count of ballots cast in a randomly selected 1% of the voting precincts in order to verify the accuracy of the machine count. This manual tally occurs during the vote canvass period prior to official certification of election results. This 1% manual count augments pre-election testing activities in demonstrating the integrity of the tabulation system. In addition to this legal requirement – and in the interest of enhancing public confidence in our voting systems – the Los Angeles County Board of Supervisors together with the Registrar-Recorder/County Clerk have established three additional activities to demonstrate the integrity and transparency of Los Angeles County's voting systems.

The activities listed below will be conducted prior to certification of the November 7, 2006 General Election results.

All proceedings are open for public observation.

PRECINCT BALLOTS

Manual Count of BALLOTS FROM 1% OF Precincts

(all contests; polling place ballots)

Random selection of precincts will take place on Wednesday, November 8, 2006 at 3:00 p.m. in the Registrar's Executive Conference Room, 7th floor, Norwalk headquarters.

Dates: Begins Saturday, November 11, 2006 and continues daily until completed. **Time:** 8:30 a.m. – 4:00 p.m. on Saturdays and Sundays; 8:30 a.m. – 6:30 p.m. weekdays **Location:** Registrar-Recorder/County Clerk headquarters, 12400 Imperial Highway, Norwalk; 7th Floor Executive Conference Room **Coordinator(s):** Alex Olvera & Cynthia Taylor	**Authority:** California Elections Code (E.C.) Section 15360 **Description:** E.C. 15360 states: "During the official canvass of every election in which a voting system is used, the official conducting the election shall conduct a public manual tally of the ballots tabulated by those devices cast in 1% of the precincts chosen at random by the elections official. In addition to the 1% count, the elections official shall, for each race not included in the initial group of precincts, count one additional precinct. The manual tally shall apply only to the race not previously counted. Additional precincts for the manual tally may be selected at the discretion of the elections official."

TOUCH SCREEN EARLY VOTING

MANUAL COUNT COMPARISION OF RANDOMLY SELECTED 5% OF VOTING UNITS

(randomly selected contests)

Random selection of voting units will take place on Monday, November 13, 2006 at 11:00 a.m. in the Registrar's Conference Room, 7th floor, Norwalk headquarters.

Date: Begins on Monday, November 13, 2006 **Time:** 11:00 a.m. to 5:00 p.m. Continuing Tuesday, November 14, 2006 at 9:00 a.m. until completed. **Location:** Registrar-Recorder/County Clerk headquarters, 12400 Imperial Highway, Norwalk; 7th Floor, Registrar's Conference Room **Coordinator:** Kenneth Bennett	**Authority:** By motion of the Los Angeles County Board of Supervisors adopted October 24, 2006 **Description:** The Registrar-Recorder/County Clerk conducts an audit of votes cast on no fewer than 5% of the Direct Recording Electronic (DRE or "Touchscreen") machines used for early voting. The DRE units and contests to be audited are randomly selected. A comparison is made of the votes recorded on the Voter-Verifiable Paper Audit Trail (VVPAT) with the centralized vote tally system count. In the event of a VVPAT paper jam, ballot images will be printed from the equipment for use in the vote comparison.

SNAP TALLY

Manual count Comparison of randomly selected 5% of "Snap Tally" Precincts (snap tally contests selected by media)

Random selection of precincts will take place on Monday, November 13, 2006 at 9:00 a.m. in the Registrar's Conference Room, 7th floor, Norwalk headquarters.

Date: Tuesday, November 14, 2006 **Time:** 1:00 p.m. to 5 p.m. (or until completed) **Location:** Registrar-Recorder/County Clerk, 12400 Imperial Highway, Norwalk; 7th Floor, Registrar's Conference Room **Coordinator:** Deborah Wright .	**Authority:** By motion of the Los Angeles County Board of Supervisors adopted October 24, 2006; California Elections Code Sections 14440, 14443 describe "snap tallies" **Description:** The Registrar-Recorder/County Clerk randomly selects no fewer than 5% of the designated snap tally precincts to be manually counted and compared to the snap tally results produced on election night and the centralized vote tally system count for these precincts.

ABSENTEE BALLOTS

MANUAL COUNT COMPARISON OF BALLOTS FROM 1% OF ABSENTEE BALLOTS TABULATED ON ELECTION DAY
(randomly selected contests)

Random selection of ballot groups and contests will take place on Monday, November 13, 2006 at 9:00 a.m. in the Registrar's Conference Room, 7th floor, Norwalk headquarters.

Date: Begins on Monday, November 20, 2006 **Time:** 9:00 a.m. – 4:00 p.m. Continues daily until completed. **Location:** Registrar-Recorder/County Clerk, 12400 Imperial Highway – Norwalk – 3rd Floor MTS Room & 7th Floor Registrar's Conference Room **Coordinator:** Kenneth Bennett	**Authority:** Registrar-Recorder/County Clerk Policy adopted October 30, 2006 **Description:** The Registrar-Recorder/County Clerk conducts a random audit of votes cast by absentee/mail ballots. The random audit will include no fewer than 1% of the absentee ballots cast and tabulated on Election Day in a sampling of electoral contests. Manual count will be compared to the totals produced for the same contests on the county's centralized vote tally system.