

Comments on the New York State Board of Elections Proposed 2009 Pilot Plan

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New York State Citizen Election Modernization Advisory Committee

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THE LEAGUE
OF WOMEN VOTERS

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At the May 12, 2009 State Board of Elections Commissioners meeting, a request was made to the Citizen Election Modernization Advisory Committee (CEMAC) for comments on the proposed pilot plan (referred to in this paper as the Proposed Plan) submitted to the Department of Justice and US District Court on May 15, 2009. As the League of Women Voters of New York State's representative to CEMAC, this brief paper discusses my analysis of the Proposed Plan and categorizes areas where the plan lacks sufficient safeguards to protect the voters of New York State.¹

Even though a member of CEMAC, I have had access only to the same source material available to the general public at the [New York State Board of Elections website](#).² Despite my request, the State Board of Elections would not provide me with access to current defect reports, testing status documents, change logs, or other technical documentation related to the ongoing certification testing in order to independently evaluate the state of the systems. As a result, this paper is based only on the publicly available materials.

Any evaluation of the Proposed Plan must bear in mind that it calls for the use of new voting systems which have not yet completed or passed New York State certification testing. These systems are to be used in real elections in the 2009 Primary and General elections. Over the last year the software for these systems has been changing in response to earlier defects³ found against the New York State standard, and changes are still ongoing. The Proposed Plan systems to be used in the 2009 elections have not yet completed testing and still have open defects which will not be fixed in the deployed systems. Moreover, significant changes have been made to software source code which has not yet undergone any wide scale testing, and will be used for the first time in real New York State elections. Therefore it is imperative that any plan incorporate provision for independent verification of machine results by hand counts of paper ballots, and have a backup plan in the event of problems.

The idea of conducting a pilot program is a legitimate one, as there is much that can be learned from a small, controlled use of new voting systems backed up by independent verification of paper ballots. And certainly the best time to do a pilot project is in an off year election. But as proposed, the State Board of Elections' Proposed Plan is, for over a half a million New York State

¹ It is worth noting that the Proposed Plan was fully developed and (except for minor text changes) finalized prior to any request to CEMAC to review the plan and submit comments. It would have been better for the Board of Elections to request input from CEMAC *prior* to plan finalization, providing the committee members with early drafts so that their comments could have been considered prior to the plan's submission to the Department of Justice and the US District Court.

² Proposed 2009 Voting Machine Pilot Plan Documents available at the New York State Board of Elections website:

- [Authorizing Resolution 05/12/2009](#)
- [Pilot Plan Narrative 05/12/2009](#)
- [Timeline 05/12/2009](#)
- [County Participation Spreadsheet 05/12/2009](#)

³ Current voting industry practice is to label known software problems by the euphemistic term "anomalies". I prefer the traditional terms "defect" or "bug" used by software developers.

voters, anything but small and controlled. The word 'pilot' is inaccurate and masks the certainty that in 18 New York State counties each and every voter will be using voting systems which have yet to pass New York's testing standards, in real elections, and without adequate audits of paper ballots to confirm the results.

Summary

There are five areas that need improvement in the Proposed Plan. They are:

- Inadequate Auditing Provisions.
- Participation should be limited to no more than 10% of registered voters per county.
- No contingency plan in the event of problems.
- Inadequate specifications for system and ballot security and chain of custody.
- No plan for post pilot evaluation.

Inadequate Auditing Provisions

Up until recently, all public discussion of the Proposed Plan indicated that a 100% hand count of all ballots would be required to verify the results tabulated by the scanners deployed in the pilot. However at the State Board of Elections annual meeting in Albany on April 27, 2009 the pilot auditing provisions which were announced changed dramatically, requiring only *"a 100% hand audit of all ballots in election districts when the difference in the result of the election between the potential winning and losing candidates in any contested election on the ballots is 1% or less."* Such a small margin rarely occurs in an election, and would likely result in absolutely no audit of physical ballots or independent verification of the election results taking place anywhere in the state.

At the State Board Commissioners meeting on May 12, 2009, additional language was added that would require *"Full compliance with the audit provisions contained in Election Law §9-211 and the audit provisions contained in the proposed regulation 6210.18."* While this is an improvement, it still falls far short of what is needed to provide voters with confidence in the tabulated results of the pilot systems:

- Regulation 6210.18 has yet to be approved by the State Board of Elections, and there is no indication as yet what the specifics will be and whether they will provide for statistically meaningful risk limiting audits. The Proposed Plan calls for audits, but provides no detail as to what exactly will be audited.
- Since the systems being used in the Proposed Plan will not yet be certified and are being used only on a provisional basis, a higher standard than the statutory requirement of 3% of machines is necessary. As noted, the original discussions of the Proposed Plan acknowledged that a complete hand recount would be required to verify the results obtained from uncertified systems. The Proposed Plan must require some comprehensive method of independent verification of the results. The original proposal of a 100% hand recount would have provided that certainty, the current proposal falls far short.

Participation should be limited to no more than 10% of registered voters per county

The accepted definition of 'pilot program' means a limited roll out of a new system in order to test it under real world conditions, prior to use by an entire organization. Pilot programs are particularly important with software driven systems:

*“In software development, a pilot project refers to an initial roll out of a system into production, targeting a limited scope of the intended final solution. The scope may be limited by the number of users who can access the system, the business processes affected, the business partners involved, or other restrictions as appropriate to the domain. The purpose of a pilot project is to test whether the system is working as it was designed while limiting business exposure.”*⁴

But contrary to this definition of ‘limited scope’, the Proposed Plan allows counties to choose full county wide use of the new systems. This is not a limited scope, but a full deployment of uncertified systems, and 18 New York counties have chosen to do so.⁵ Allowing full county wide participation contradicts the idea that this is a “pilot” project and should not be permitted. Since the goal of a true pilot is to provide a real world test under limited conditions, a better approach would be to restrict the counties to selecting no more than 10% of their registered voters for participation.⁶

No contingency plan in case of problems

As noted above, a pilot program is a limited test to verify new systems under real world conditions. Since new, untested systems present the possibility that serious unforeseen problems may occur, good project management practice calls for a contingency plan – a precise description of responses and procedures for backup and recovery to be followed in the event of problems. This is particularly important for New York’s Proposed Plan, since this is a real election with over 900,000 registered voters using test systems in real elections.

But the Proposed Plan has no contingency plan, which I confirmed when I questioned State Board of Elections staff presenting the Proposed Plan to CEMAC at a meeting on May 19, 2009. This omission could have serious consequences in the event of problems on Election Day, and leaves numerous unanswered questions. What are counties to do if they can’t get systems to start up at the beginning of the day, or tabulate votes at the end of the day? What procedures are they to follow to secure voted ballots if a machine breaks down during the day? How are voters going to vote if the new systems break down – on paper ballots or on lever machines?

It is not enough to expect local officials to improvise answers on Election Day when real votes are at stake. I urgently recommend that the State Board of Elections provide a comprehensive contingency plan for the counties to follow during the pilot.

Inadequate specifications for system and ballot security and chain of custody

A key part of a pilot program should be a full and comprehensive end to end test of the new system. With New York State’s new voting systems, this includes the security and chain of custody procedures for machines, memory cards, and paper ballots which must be followed by local election officials. However, the Proposed Plan provides no guidance nor makes any requirement regarding specific procedures that are to be followed by the participating counties for these essential security measures.

⁴ http://en.wikipedia.org/wiki/Proof_of_concept

⁵ Broome, Cayuga, Chautauqua, Chenango, Cortland, Delaware, Franklin, Hamilton, Jefferson, Lewis, Madison, Oswego, Putnam, Schuyler, Seneca, St. Lawrence, Steuben, Yates Counties chose 100% county wide roll out of the systems being tested.

⁶ It should be noted that 21 counties correctly understood the need to restrict the use of the pilot machines to approximately 10% or less of registered voters - Albany, Allegany, Cattaraugus, Chemung, Dutchess, Genesee, Greene, Herkimer, Livingston, Monroe, Montgomery, Niagara, Oneida, Onondaga, Orange, Saratoga, Schenectady, Schoharie, Sullivan, Ulster, and Wayne.

The State Board of Elections' consultant, NYSTEC, has been developing a set of security and chain of custody procedures but the State Board of Elections Proposed Plan does not explicitly require that these procedures be followed during the pilot. It cannot be emphasized enough that the pilot is a real election. It is critical that the State Board of Elections finalize the security procedures and require that all participating counties follow them precisely during the pilot.

No plan for post pilot evaluation

The value of a pilot program comes from lessons learned prior to the eventual full roll out of a new system. Therefore, it is important that the State Board of Elections provide the public with a detailed plan for how the results of the pilot are to be compiled, categorized and evaluated. How will counties report their experiences to the State Board of Elections? How will these reports be recorded and assessed? How will problems be evaluated, and how will solutions be proposed and implemented prior to the planned state wide deployment in 2010?

The current Proposed Plan provides no indication that information gained from the pilot will be used in a meaningful way. It isn't sufficient to simply assume that knowledge gained from the pilot will be disseminated and automatically applied to future use of the machines. The pilot will raise important issues about the new systems that must be reviewed and acted upon. There will be important lessons to be learned from the pilot program, but only if the State Board of Elections has a plan in place to collect, evaluate and apply the new information in future elections. NYSTEC, or some other neutral agent, should be retained to conduct a review of the systems performance and the processes and procedures employed by the counties. In addition and equally important, a separate review of the auditing process should be undertaken.

Conclusion

While well intentioned, the Proposed Plan has serious weaknesses that should be addressed before the plan is implemented. In particular, the auditing provisions which should provide an independent verification of the systems, are inadequate and unspecific; also, participation by counties should be restricted to no more than 10% of registered voters.

The potential benefits of running a pilot program are many, but the Proposed Plan gives the impression that the goal is to get as many new systems into use this year prior to completion of the state's rigorous certification testing regardless of risk. The Proposed Plan gives insufficient regard to the scale of the project, the need for independent verification of results, the potential for problems arising, or a plan for how to learn from and apply the results.

I urge the State Board of Elections to consider these comments and modify the Proposed Plan. New York State voters were promised a rigorous process with no exceptions, but the Proposed Plan falls far short of that pledge. We can, and must, do better.

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