Report on the
Manual Ballot Audit: Takoma Park, Maryland,
November 3, 2009 Election

Electronic Privacy Information Center
November 19, 2009

Summary

The EPIC auditor collected fifty-copies of ballots throughout the day of the Takoma Park, November 3, 2009 general election. These ballots are included in the data provided online for audit purposes.[1] There were no problems detected by the manual audit. The details on the steps taken and the review of manually audited ballots are provided in this report submitted to the Clerk for Takoma Park, Maryland.

About EPIC

The Electronic Privacy Information Center (EPIC) is a public interest research center in Washington, D.C. EPIC was established in 1994 to focus public attention on emerging civil liberties issues and to protect privacy, the First Amendment, and constitutional values. EPIC has a long-standing interest in privacy and technology issues.

Because of the democratic values of the secret ballot and voter privacy, EPIC has a particular interest in the privacy implications of electronic voting systems. EPIC has submitted briefs in voting and privacy cases: *Greidinger v. Davis,* and *Crawford v. Marion County, Indiana Election Board*. EPIC routinely participates in the development of new voting technology policy through Election Assistance Commission public comment processes.

Lillie Coney, EPIC's associate director, performed the manual ballot audit for the Takoma Park Election held on November 3, 2009. Ms. Coney joined EPIC in 2004 to head up the organization's voting and privacy project, and in 2005, she was named Associate Director. For more, visit http://www.epic.org/epic/lillie_coney.html/

Background

Takoma Park, Maryland's Clerk of Elections sought EPIC's assistance in conducting a manual audit of the November 3, 2009 election. The city chose the Scantegrity voting system for its biannual election for mayor and city council. Scantegrity is an original concept developed by David Chaum (Scantegrity) and has been refined for use in elections through the collaboration of Ron Rivest (MIT), Poorvi Vora, (Computing Science

[1] Available at ttp://zagorski.im.pwr.wroc.pl/scantegrity/codes/opened.html

Department at George Washington University), and Alan T. Sherman, (Computer Science Department, University of Maryland, Baltimore County).

Scantegrity's implementation for the Takoma Park election allowed voters the option of performing a post-voting verification of the capture of their ballots for the tabulation phase of the election. Takoma Park voters also had the option of second chance voting, which allowed the selection of primary and secondary choice for the public offices on the Tuesday, November 3, 2009 ballot.

This marked the first time in the U.S. that voters had the option to check that their private votes were correctly recorded and included in the election results. Selections on each ballot used unique codes for each possible selection on the ballot. The codes corresponded to the ballot number. It is important to note, however, that ballots were not associated with a specific voter. Poll book registration logging of voters participating in the election was separate from the issuance of ballots to voters.

Voters were given ballots in a privacy sleeve. They then voted using optical scan ballots behind privacy screens, which allowed voters the option of noting the codes and ballot numbers on a form they could take with them. Voters then deposited completed ballots into one of two scanners. Later, voters could verify that their ballot was included in the results by going to the City Election Office's web site and entering the ballot number. This method of voting was not accessible for persons with vision related disabilities, which prevented them from casting ballots unaided. The privacy sleeve, provided for voters to hide ballots from viewing by others, did support voter privacy. It is important to note that voters with mobility challenges that prevented manipulation of writing tools or opening and closing ballot sleeves would also face challenges to casting a private, independent ballot. However, voters with a wide range of disability challenges were observed voting independently or with little assistance with inserting the privacy sleeve enclosed ballot into the scanner. Poll workers and election officials were mindful of their obligations to uphold voter privacy and ballot integrity as they served voters throughout Election Day.

EPIC was asked to randomly select sample ballots from all of the ballots provided to voters from each of the 6 wards. More than 1600 Takoma Park voters participated in the election. The audit ballots were selected at various times throughout the Election Day, under the supervision of election officials. Takoma Park elections officials voided each audit ballot and marked ballot stubs to indicate that they were part of the manual audit. Then EPIC processed each manual audit ballot by revealing all possible selections for each ballot, then a copy of the original manual audit ballot was made. The original ballots manual audit ballots were placed in an envelope, identifying the contents as "manual audit ballots," which was held by another election official stationed in the polling location. Each ballot copy was then endorsed by the Chief Election Judge, which will aid in authentication of the ballot manual copies that are returned to the Takoma Park Election Office with this report.

Manual Audit Report

Fifty ballots were randomly selected from the total number of preprinted ballots made available to voters on Takoma Park Election Day, November 3, 2009. Random ballot selections, under the supervision of election officials, began at 8:43 AM with a ballot being taken from each of the 6 wards' election ballots. Manual audit ballot selections continued through out the day, alternating between the ballots issued to all voters and the ballots reissued to voters who spoiled ballots. Selection of manual audit ballots continued until 5:18 PM. The volume of voting and shrinking number of ballots made another round of ballot selection impracticable.

Wards	Number of Audit Ballots
1	8
2	9
3	8
4	9
5	8
6	8

Manual Audit ballot selection also included samples from the election spoiled ballot and reissuance station. When voters made errors in marking their ballots they were directed to the polling location's spoiled ballot station, where a new ballot would be issued to them. Voters with spoiled ballots were directed by election officials to mark all possible selections on spoiled ballots prior to having a clean unmarked ballot being issued to them. These spoiled ballots were placed in a separate envelope for later processing by election officials.

Findings

The final stage of the manual audit involved comparing the ballot selections on the manual audit records with the electronic information on posted ballots provided post election. The posting of manual audit ballot information became available on November 11, 2009. The manual ballot audit was completed on November 16, 2009.

- All ballots selected for the manual audit were present. All exposed ballot numerical codes for each possible selection match those provided electronically at the following link: ttp://zagorski.im.pwr.wroc.pl/scantegrity/codes/opened.html
- Each ballot at the time of collection for the manual audit was initialed by Anne Sargeant (Takoma Park Election Judge)
- Revealing the codes for each ballot selection was performed using a yellow highlighter stroked across the face of the ballots corresponding to the row of selections for each candidate

- Numbers on the manual audit ballots appeared in white with dark backgrounds in an oval
- Revealed ballot selection codes on each ballot did not always copy well, there were particular problems with differentiating zeros and eights in some cases
- On those ballots where zeros and eights presented differentiation challenges the other two numbers provided in the codes for each selection where used to determine whether the ballot code numbers were a match
- Any oval that was not completely revealed, but did provide the ballot code clearly for the purposes of the manual audit, were initialed with an [LC], See example ballot Ward 4 Number 4-975846
- Each ballot reviewed for the manual audit was initialed by the auditor next to the initials provided by the Takoma Park Election Judge who monitored the polling location collection of manual audit ballots
- Voting went smoothly throughout the day, and the line for voters waiting to deposit ballot/sleeve for scanning did not exceed 5 individuals at any one time

EPIC's auditor remained at the polling location for the Takoma Park Election until after the regular poll closing time of 8:00 PM. No manual ballot audit was taken between 10:00 am and 3:30 PM.

EPIC appreciated the opportunity to provide an manual audit of the Takoma Park Maryland's November 3, 2009 election. Enclosed with the physical report being returned to the Takoma Park Office of elections are the original copies of manual audit ballots.

_____ _____

Date Signature