RELEASE: National Election Data Archive

http://electionarchive.org/ucvAnalysis/US/press/Release-audits.pdf

It Is Not Whether Or Not To Audit Elections, But How

As Explained in Short Paper and Spreadsheet from National Election Data Archive

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How many ballots have to be counted to detect vote counting errors that are big enough to change the outcome of an election? With more and more contested elections since 2000, the question is not just academic. According to an analysis by M.I.T. mathematician Ronald Rivest, in an average US House race with a 1% margin between candidates and 440 precinct counts, a 2% audit may only have a 27% chance of uncovering vote count error, while a 20% audit may have a 97% chance of uncovering vote count error.

A spreadsheet tool to allow any layman to calculate how many vote counts to audit, was released by the National Election Data Archive (NEDA). The tool uses a formula developed by Rivest to estimate the minimum audit sufficient to detect vote count errors that could seat wrong candidates. NEDA's audit analysis spreadsheet tool and a paper explaining Rivest's formula can be downloaded free at ElectionArchive.org.

http://electionarchive.org/ucvAnalysis/US/paper-audits/ElectionAuditEstimator.pdf
http://electionarchive.org/ucvAnalysis/US/paper-audits/HowManyToAudit.xls

NEDA president Kathy Dopp said NEDA released the election audit analysis tool because of a nationwide debate about whether or not to verify machine counts by manually counting paper ballot records. "Could there be a more inane debate?" Dopp asked. "Would you put your money in a bank that did not conduct certified audits? Would the Federal Deposit Insurance Corporation (FDIC) insure bank deposits if banks were not subjected to certifiable audits?"

The closer the race between two candidates, the larger manual audit is needed to uncover small machine error that might wrongly alter the outcome, according to both Dopp and Rivest.

Dopp said that other requirements to ensure the integrity of election outcomes are included in a set of 14 Recommendations for Ensuring the Integrity of Elections by experts in election integrity. Sufficient audits and public oversight are necessary to deter wholesale electronic fraud and errors.

http://electionarchive.org/ucvInfo/US/EI-FederalLegislationProposal.pdf

For the public to have oversight over election integrity, NEDA said, the public needs to be allowed to fully observe all audit procedures, including the random selection and manual vote counts, and before the audit begins, a public report of all vote types and votes counted on each machine needs to be publicly released. Audits are hand-counts of all paper ballots associated with randomly selected machine counts.