

## 2010 Pre-election Logic and Accuracy & Post-election Audit Grant Program

### Grant Recipient Program Summaries

#### **California Secretary of State; Sacramento, CA (Audit)**

**Contact:** Ms. Jennie Bretschneider

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**Program Name:** California Secretary of State Post-Election Risk-Limiting Audit Pilot Program

**Recommended Funding Level:** \$230,000

**Project Description:** The California Secretary of State (SOS) plans to conduct a two year pilot program to test new, risk-limiting audit models, as developed by Dr. Stark of the University of California, Berkeley. Up to twenty California counties will be participating in the pilot with the audits taking place during the post canvass period following live elections held during 2011-2012. The team will document the pilot audits, analyze and present findings and recommendations on the effectiveness, efficiency, usability, challenges, mitigations, costs and benefits of risk-limiting audits. The team will also develop and document a set of tools, processes and best practices for conducting risk-limiting post-election audits, including easy-to-follow statistical formulas and rules to set the initial sample size and escalation triggers. Results of the pilot program will be published in scholarly journals and disseminated throughout the election community through organizations such as National Association of Secretaries of State (NASS), the National Association of State Elections Directors (NASSED), the California Association of Clerks and Election Officials (CACEO), and the Election Verification Network (EVN).

#### **Orange County Registrar of Voters; Santa Ana, CA (Audit)**

**Contact:** Mr. Brett Rowley

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**Program Name:** Post-Election Audit Program

**Recommended Funding Level:** \$125,000

**Project Description:** Orange County Registrar of Voters proposes a two phase approach to examining and improving its current audit processes and procedures: The first phase will analyze paper ballot accounting and the potential conflicts associated with the process of paper voting, chain of custody, canvass instructions, rosters, board member qualifications, supplies, and seals. The second phase will examine the voting performance of the county's Hart InterCivic electronic voting systems including the Voter Verified Paper Audit Trail (VVPAT). A detailed review of policies and procedures in these areas ensures post-election audits are conducted with integrity and transparency which enhances public confidence in the voting process.

**County of Humboldt; Eureka, CA (Audit)**

**Contact:** Ms. Carolyn Crnich

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**Program Name:** Extension and Documentation of Humboldt County, CA, Election Transparency Project

**Recommended Funding Level:** \$25,000

**Project Description:** The Humboldt County Elections Department (HCED) has been working with the Humboldt County Election Transparency Project (EPT) for more than two years, supplementing the Department's official vote counting equipment by scanning all cast ballots on a commercial off the shelf scanner. The resulting ballot images are made available to interested parties, so that any interested party may conduct their own vote counts off of their ballot images. The open source software developed by Mitch Trachtenberg is freely available, and the current version builds its own "ballot definition files" by scanning ballots via optical character recognition, thus eliminating the need to reprogram for each ballot. Funds from this award will be used to develop better reporting capabilities for the software and for a training manual to assist those conducting audits in Humboldt and other counties interested in this method.

**County of Santa Cruz, CA; Santa Cruz, CA (Blended)**

**Contact:** Ms. Gail Pellerin

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**Program Name:** Blended Pre-Election Logic and Accuracy Testing and Post-Election Audit Initiative

**Recommended Funding Level:** \$25,000

**Project Description:** The Santa Cruz County Clerk proposes to improve current pre-election logic and accuracy testing and post-election auditing for blended voting systems. The county will create procedures, checklists, physical measures, etc. that create a more efficient process by removing overlapping procedures, reducing staff required, and increasing uniformity both between counties and internally from one election to the next. The work will focus on more comprehensive testing prior to the election and a more detailed series of post-election audits focusing on easy audits and clear and comprehensive chain of custody procedures to promote greater transparency and more uniform results. By focusing on blended systems, the new procedures will be written for the most complex and time intensive items to help the counties meet certification deadlines while still performing top quality audits. The county plans to seek data from twenty two counties for voting system specific audits and testing and from all fifty eight counties for audits required under state law.

**Colorado Department of State; Denver, CO (Audit)**

**Contact:** Mr. William Hobbs

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**Program Name:** Colorado Risk-Limiting Audit Project (CORLA)

**Recommended Funding Level:** \$230,000

**Project Description:** The Colorado Department of State plans to pilot risk-limiting audits in five counties in a mix of areas – urban, suburban, and rural. Colorado will develop, test, and implement a risk-limiting audit system that helps meet legislation requiring the state’s jurisdictions to implement a risk-limiting audit system by the 2014 elections. The research team will review current election processes in target counties and solicit input from other stakeholders, including county election officials, voters and concerned citizen groups. The team will also review existing best practices in the state and the nation, selecting the most promising practices for testing the appropriate target counties. Due to the wide array of election methods, vendors, and types of voting equipment used in the state’s 64 counties, the recommendations developed by the research team will be applicable in many of the jurisdictions across the nation.

**State of Connecticut, Secretary of the State; Hartford, CT (Blended)**

**Contact:** Mr. Theodore Bromley

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**Program Name:** Pre and Post Election Audit testing

**Recommended Funding Level:** \$230,000

The CT Secretary of State’s office will be partnering with the University of Connecticut to test the accuracy of the memory cards used in optical scan voting machines and to demonstrate a prototype of an Audit Station, as developed by the research team. The Audit Station is a combination of hardware, specialized software, methodology and auditing procedures for automating hand count activities. During the two year project period, the research teams anticipate collecting data from approximately six live elections, which will provide enough data to determine the failure rate of the memory cards, and analyze the cost, time, and accuracy of current audit procedures as compared to the new Audit Station.

**Office of the Cook County Clerk; Chicago, IL (Blended)**

**Contact:** Mr. Noah Praetz

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**Program Name:** S.A.F.E. (Standardizing Auditing for Elections)

**Recommended Funding Level:** \$125,000

**Project Description:** Cook County Clerk, David Orr, plans to document current Pre-Election Logic and Accuracy testing and Post election audit processes and develop an improved data-driven Election Verification and Audit Tool Kit that integrates and analyzes all election data streams. Funds from this award will be used for enhanced database design, real time connectivity, customized code development, and the development of a public guide to these testing procedures. The Tool Kit in combination with the public guide will achieve a level of automation and database utilization that will provide both a diagnostic tool to identify areas of focus for judge training and streamlined election administration, as well as a replicable prototype for other election

jurisdictions that wish to enhance their ability to produce data that can augment vote count accuracy.

**State of Indiana, Secretary of State; Indianapolis, IN (Blended)**

**Contact:** Mr. J. Bradley King/Trent Ryan Deckard

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**Program Name:** Pre-election Logic and Accuracy Testing & Post-Election Audit Initiative: A Blended Proposal

**Recommended Funding Level:** \$143,074

**Project Description:** The State of Indiana, which uses both DRE and optical scan voting systems, will develop general protocols for L&A checklist as well as specific protocols for different voting systems, based on the surveys with election officials. In addition, current procedures governing chain of custody of voting records will be collected from the counties and analyzed in order to develop improved procedures to govern post-election audits. Post-election audit forms will be developed to manage the procedures to be followed after the election.

**City of Takoma Park; Takoma Park, MD (Audit)**

**Contact:** Ms. Jessie Carpenter

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**Program Name:** Post-Election Auditing with Voter-Verified Privacy Preserving Receipts

**Recommended Funding Level:** \$25,000

**Project Description:** The City of Takoma Park, MD proposes to document the procedures, practices, and policies when using post-election End-to-End (E2E) verifiable voting technologies, and to measure the impact of E2E voting on voters and election officials. All documentation produced by this project will be reviewed by the City of Takoma Park election officials, along with experts in the fields of computer security, election systems, and accessibility through its research partner, the Voting Systems Institute (VSI). The results of this research will increase knowledge and understanding on how other jurisdictions can successfully implement E2E verifiable post-election audit technology.

**County of Boone; Columbia, MO (L&A)**

**Contact:** Ms. Wendy Noren

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**Program Name:** Pre-Election Logic and Accuracy Testing – Ballot Marking Scripts Toolkit Development

**Recommended Funding Level:** \$25,000

**Project Description:** County of Boone, Missouri plans to develop computer programs that will enable local jurisdictions to generate logic and accuracy (L&A) test scripts that meet State of Missouri regulations. Having ready-made test scripts will improve accuracy, eliminate tester bias, reduce cost for local jurisdictions and remove reliance on voting equipment vendor-generated test decks. While the project will first focus on developing test scripts for Boone County, additional programming will be developed that will allow other jurisdictions in the state to generate test scripts from voter registration data regardless of the ballot counting system.

**New York State Board of Elections (NYSBOE); Albany, NY (Blended)**

**Contact:** Ms. Anna Svizzero

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**Program Name:** Blended Application for L&A and Post-Election Audit

**Recommended Funding Level:** \$230,000

**Project Description:** The New York State Board of Elections is refining the Logic and Accuracy and Post-Election audit procedures that are used in its 62 county board of elections. For the L&A portion of its proposal, NYSBOE will develop training materials and identify changes to current practices for cost savings. NYSBOE also plans to develop a post election audit procedure that will statistically verify the results obtained from the voting systems. Anticipated outcomes include the use of ballot images, the identification (through the use of statistical modeling) of an appropriate sample size, development of proper chain of custody procedures, and development of a threshold that adjusts the audit percentage based on the closeness of the election. Based on the results of the project, the current L&A and Post-election Audit procedures will be revised and disseminated for statewide implementation.

**Cuyahoga County Board of Elections (CCBOE); Cleveland, OH (Blended)**

**Contact:** Mrs. Shantiel Soeder

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**Program Name:** Cuyahoga County Board of Elections Logic and Accuracy and Audit Best Practices

**Recommended Funding Level:** \$50,000

**Project Description:** CCBOE plans to create a virtual how-to-guide and web reporting program based on best practices for all optical scan election jurisdictions to utilize during L&A testing and Post-Election audits. The funds provided will allow the CCBOE to further document, in writing and on film, each process including L&A testing, poll book justification, ballot reconciliation, chain of custody verification, and post election audit. The CCBOE plans to share these procedures with election jurisdictions throughout the country by providing the resources in an online format. The CCBOE intends to create a virtual “post-election audit how-to guide” that will illustrate how to conduct different types of audits from start to finish and will include a web-based program to organize and report audit outcomes.