

U.S. Election Assistance Commission
Board of Advisors

November 18, 2019

Quarterly Conference Call

Resolution

Offered by: Barbara Simons, Election Security Committee

Title: Election Security Recommendations

To counter the ongoing election cybersecurity threat, and echo recommendations recently extended by the U.S. Senate Committee on Intelligence¹, the Cybersecurity Subcommittee of the Election Assistance Commission (EAC) Board of Advisors recommends that the EAC give states the following advice:

1. States should employ information technology cybersecurity best practices outlined by the Center for Internet Security (CIS)² and the U.S. Department of Commerce National Institute of Standards and Technology (NIST)³, as applicable, and specifically address the following –
 - a. Evaluate and prioritize steps to safeguard voter registration systems, state election records, pre-election activities, voting machines, election management systems, election reporting systems, and all other associated information technology systems and applications which support elections in its entirety, from malicious cyber activity;
 - b. Conduct annual cybersecurity-related audits of information systems;
 - c. Roadmap information technology infrastructure investments that reduce risks and vulnerabilities associated to legacy information technology systems*;
 - d. Collaborate with the Department of Homeland Security and Office of the Director of National Intelligence Election Threats Executive⁴, as able, to improve communication and the sharing of cybersecurity information and best practices.

¹ <https://apps.npr.org/documents/document.html?id=6214170-Senate-Intel-Report-On-Election-Interference>

² <https://www.cisecurity.org/controls/cis-controls-list/>

³ <https://nvd.nist.gov/800-53>

⁴ <https://www.dni.gov/index.php/newsroom/press-releases/item/2023-director-of-national-intelligence-daniel-r-coats-establishes-intelligence-community-election-threats-executive>

2. To ensure that states adopt a layered security methodology, the EAC should advise states to –
 - a. Use paper ballots as the ballot of record^{5,6} to ensure strong software independence, tamper evidence, and resilience;
 - b. Ensure that voting systems allow all voters, regardless of ability or age, to cast a paper ballot privately and independently, and that those who so desire may hand mark their paper ballots;
 - c. Mandate procedures to ensure that the paper ballots are and remain a trustworthy record of voter intent, including appropriate, tamper-evident physical security measures and verifiable chain of custody for ballots, voting machines, and other election-related items and materials, as well as ballot accounting, cross checks of the number of ballots received against the number of voters, and similar measures;
 - d. Conduct routine, transparent, publicly verifiable “compliance audits” to ensure that the cast paper ballots are and remain a trustworthy record of voter choices for the purpose of tabulation, recounts, and audits;
 - e. Conduct routine, transparent, publicly verifiable post-election manual audits from the human-readable marks on the physical paper ballot. These audits should compare a sample of the paper ballots to electronic totals, with the goal of adopting statewide audits with a high level of statistical confidence at the earliest feasible time to ensure that tabulation errors did not alter reported election outcomes;
 - f. Mandate that any recounts be transparent and manually determine voter intent from the human-readable marks on the physical paper ballot;
 - g. Consider the suitability of systems for compliance audits and audits with a high level of statistical confidence when purchasing new equipment.⁷

* Legacy System Definition - An information system that may be based on outdated technologies but is critical to day-to-day operations. (Gartner)

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⁵ This is the substance of EAC Advisory Board Resolution 2018-03 (<https://www.eac.gov/documents/2018/04/27/resolution-2018-03-auditability-of-voter-intent-passed-10-8-4-advisors-resolution-page/>, last visited 19 August 2019). Paper ballots are also recommended by the National Academies. See National Academies of Science, Engineering, and Medicine, 2018. *Securing the Vote: Protecting American Democracy*, National Academies Press, Washington, DC. DOI: <https://doi.org/10.17226/25120>

⁶ National Academies of Science, Engineering, and Medicine, 2018. *Securing the Vote: Protecting American Democracy*, National Academies Press, Washington, DC. DOI: <https://doi.org/10.17226/25120>.

⁷ Equipment choice can have a large effect on the cost of sound audits.