

June 21, 2017

Dear Member of Congress:

Faith in American democracy rests on the integrity of our elections. So it stands to reason that lawmakers and administrators from both political parties should prioritize efforts to minimize election security risks. While there has been encouraging progress to improve election security in recent years, too many polling stations across the nation are still equipped with electronic machines that do not produce voter-verified paper ballots. Many jurisdictions are also inadequately prepared to deal with rising cybersecurity risks.

We are writing to you as members of the computer science and cybersecurity communities, together with statisticians and election auditing experts, to convey our concern about these and other vulnerabilities in our voting system and to urge you to take the following simple, straightforward, and cost-effective actions to set meaningful standards to protect American elections. We represent both major political parties, independents, and a range of academic institutions and private sector organizations, but we are united in our belief that the United States, the world's oldest representative democracy, needs prompt action to ensure prudent elections security standards.

Specifically, we recommend action to accomplish the following objectives:

**1. Establish voter-verified paper ballots as the official record of voter intent.**

- Phase out the use of voting technologies such as paperless Direct Recording Electronic voting machines that do not provide a voter-verified paper ballot.

## **2. Safeguard against internet-related security vulnerabilities and assure the ability to detect attacks.**

- Create firewalls (software barriers) between internet and all voter registration, vote-tabulating machines, ballot delivery, and election management systems. Require layered backup systems to ensure that intrusions and corruption of the databases can be detected and corrected.
- Review and document compliance with the recommendations and checklists prepared by the US Department of Homeland Security for security, penetration testing, network scanning, and detection and management of potential cyber-attacks. Review and track FBI security alerts.
- Ensure that voting systems and information technology that supports voting systems have the latest security patches, and that those patches have been provided from trusted sources on trusted media. Limit physical access and regularly audit sensitive and critical election systems.
- Discourage voters from voting online in any form—via web, email or fax—even in states where it is legal. Inform voters that electronically submitted ballots can be modified, copied, rerouted or simply deleted during transmission.

## **3. Require robust statistical post-election audits before certification of final results in federal elections.**

- Compare random samples of voting system totals to hand counts of the votes on the corresponding paper ballots.
- Audit in a way that has a large chance of detecting and correcting any incorrect electoral outcomes, whatever their cause.
- Recruit technical experts to assist with tests and audits. Resources for finding experts, many of whom may provide pro bono services, include

the [Election Verification Network](#), professional societies such as the [American Statistical Association](#), and academic institutions.

- Allow public oversight of all audits, and prominently publicize all testing and audit results.
- Report and publicize ballot accounting and final results in detail before certification

This is not an exhaustive list of recommendations. However, the above items can form the basis of robust, enforceable, sensible federal standards that can restore needed confidence in American elections.

Signed,

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*Please note: Individual affiliations are for identification purposes only and do not signify organizational endorsement.*

The National Election Defense Coalition (NEDC) and coalition partners compiled signatures for this letter.