

April 23, 2018

Dear State Election Officer:

On March 23rd, Congress allocated \$380 million to states to upgrade election security. This is a positive development. In the age of unprecedented hacking risks, researchers have found that electronic voting infrastructure — including voting machines and registration databases — have [serious vulnerabilities](#). While there's no evidence that vote totals were hacked in 2016, there's strong evidence that hackers have been testing the waters.

While federal funding can help states address these issues, simply upgrading or replacing election infrastructure is not sufficient. It is essential that states work with the Department of Homeland Security or other trusted providers to scan their systems for cyber vulnerabilities, and follow best practices identified by computer scientists, national security leaders, and bipartisan experts in elections administration to mitigate hacking risks. On March 20, the Senate Select Committee on Intelligence released its long-awaited [recommendations](#) on election security and concluded that requiring paper ballots, banning wireless components and implementing statistically sound audits of election results are essential safeguards. Last year, a group of 100 leading computer scientists and other election administration experts voiced the same [conclusion](#). Through years of researching voting equipment security in real election administration environments, the National Institute of Standards and Technology (NIST) has come to similar conclusions about what it will take to defend elections.

As you begin to make use of the new federal funding, we strongly urge you to follow best practices identified by these and other leading experts for election security:

- (1) Replace paperless voting machines with systems that count a paper ballot — a physical record of the vote that is out of reach from cyberattacks.
- (2) Conduct robust post-election audits in federal elections. Congress explicitly requested that states “implement a post-election audit system that provides a high-level of confidence in the accuracy of the final vote tally” as part of its report language accompanying the Omnibus. Well-designed audits involve election officials checking only a small random sample of the voters’ choices on paper ballots so that they can quickly and affordably provide high assurance that the election outcome was accurate.
- (3) Upgrade systems to ensure that states’ election websites, statewide registration systems, and election night reporting systems are defended against threats of intrusion and manipulation.
- (4) Prohibit wireless connectivity in voting machines to limit vulnerabilities to hacking risks.
- (5) Train and educate election officials at all levels on how they need to incorporate security into their elections practices.

We, the undersigned, believe that these represent sensible and cost-effective solutions to the rising challenges of election security. We urge you to take steps to safeguard elections using these proven best practices.

Sincerely,

**Adam Brandon**

President, FreedomWorks

**Duncan Buell**

NCR Professor of Computer Science and Engineering, University of South Carolina

**Michael Chertoff**

Former Secretary of Homeland Security

**Kristen Clarke**

President, Lawyers' Committee for Civil Rights Under Law

**Edgardo Cortes**

Former Commissioner of Elections, Virginia

**David L. Dill**

Donald E. Knuth Professor, Emeritus, in the School of Engineering, Stanford University

**Jamie Fly**

Senior Fellow, German Marshall Fund

**Karen Hobert Flynn**

President, Common Cause

**Trey Grayson**

Former Secretary of State, Kentucky

**Alex Halderman**

Professor of Computer Science, University of Michigan

**Joseph Lorenzo Hall**

Chief Technologist, Center for Democracy and Technology

**General Michael Hayden (Ret.)**

Former Director of the National Security Agency and Director of Central Intelligence

**David Jefferson (Ret.)**

Lawrence Livermore National Laboratory

**Douglas W. Jones**

Department of Computer Science, University of Iowa

**Rick Ledgett**

Former Deputy Director of the National Security Agency

**Ambassador Douglas Lute (Ret.)**

Former US Ambassador to NATO  
Lieutenant General, US Army

**Michael Morell**

Former Acting Director and Deputy Director of the Central Intelligence Agency

**Lawrence Norden**

Deputy Director, Democracy Program, Brennan Center for Justice at NYU School of Law

**Grover Norquist**

President, Americans for Tax Reform

**Michael O'Hanlon**

Senior Fellow, Brookings Institution

**Tammy Patrick**

Senior Advisor at Democracy Fund;  
Former Member of the Presidential Commission on Election Administration

**Ben Ptashnik**

National Election Defense Coalition

**Mark Ritchie**

Former Secretary of State, Minnesota

**Ronald L. Rivest**

MIT Institute Professor

**Mike Rogers**

Former Member of Congress (R-MI);  
Chair of the House Intelligence Committee

**Laura Rosenberger**

Director, Alliance for Securing Democracy

**Paul Rosenzweig**

Senior Fellow, R Street Institute;  
Former Deputy Assistant Secretary of  
Homeland Security for Policy

**Kori Schake**

Former Director for Defense Strategy at the  
National Security Council

**Marian Schneider**

President, Verified Voting Foundation;  
Former Deputy Secretary of Elections and  
Administration, Pennsylvania Department of  
State

**Bruce Schneier**

Fellow and Lecturer, Harvard Kennedy  
School and Berkman-Klein Center for  
Internet and Society

**Lt. Col. Tony Shaffer (Ret.)**

Vice President, London Center for Policy  
Research

**Barbara Simons**

IBM Research (Ret.); Board Chair, Verified  
Voting Foundation

**Rev. DeForest Soaries**

Former Chair, Election Assistance  
Commission

**Admiral James Stavridis (Ret.)**

Former NATO supreme Allied Commander

**Neera Tanden**

President and CEO, Center for American  
Progress

**Natalie Tennant**

Former Secretary of State, West Virginia

**Poorvi L. Vora**

Professor of Computer Science, The George  
Washington University

**Dan S. Wallach**

Professor of Computer Science, Rice  
University

**Rob Weissman**

President, Public Citizen

**Nicole Wong**

Former Deputy US Chief Technology  
Officer

\*Affiliations listed for Identification Purposes Only