

How To Protect A Vulnerable America From EMP Threat

By HENRY F. COOPER AND ROBERT L. PFALTZGRAFF JR./Investor's Business Daily/Posted 10/03/2014 06:25 PM ET/Printed October 4, 2014 <http://news.investors.com/ibd-editorials-perspective/100314-720276-countering-an-emp-attack-on-america.htm>

The rise of the Islamic State and its objective of re-establishing an Islamic caliphate committed to destroying Western civilization highlights a threat the U.S. has ignored for decades.

Ballistic missiles outfitted with nuclear warheads could be launched against the highly vulnerable electronic infrastructure upon which our very survival depends. Such a threat is not beyond the prospective capabilities of the Islamic State and exists already from North Korea and possibly soon from Iran.

A single nuclear warhead with negligible targeting accuracy detonated 100 miles or so over the U.S. could produce a ruinous electromagnetic pulse (EMP) capable of destroying our unhardened electric power grid.

Without electricity, essentially all our critical infrastructure would collapse. We would be without food and water, hospitals, law enforcement, energy, transportation, communication, banking and essentially all the critical infrastructure upon which our daily lives depend.

The congressionally mandated EMP Commission estimated that such an attack would lead to the death of several hundred million Americans within a year.

Consider three EMP scenarios: 1) nuclear-armed intercontinental ballistic missiles launched over the North Pole, say by North Korea or Iran; 2) nuclear-armed short-, medium- or intermediate-range missiles fired by rogue states or terrorists from ships off our East or West coasts and from the Gulf of Mexico; and 3) nuclear-armed satellites launched over the South Pole by North Korea or Iran.

The EMP from any of the three would also put at risk military forces that depend heavily on our civil infrastructure. Presently, no national strategy addresses these threats or supports effective countermeasures, and currently funded programs deal only with the first scenario.

We advocate countering these threats with a two-pronged strategy, which can be underwritten with existing capabilities.

Ballistic Missile Defense is the first prong.

The U.S. Navy Aegis missile defense system is the most operationally reliable, agile and successful element in the U.S. missile defense architecture — 29 successful intercepts in 35 attempts.

Its key components are operating on over 30 Aegis cruisers and destroyers around the world, and will fit in a football field-size "Aegis Ashore" configuration that could be deployed rapidly at U.S. military bases near our coasts, particularly near the Gulf of Mexico. It would operate in conjunction with nearby Aegis missile defense ships and our homeland ground-based missile defense sites in Alaska and California — and, in several years, in a northeastern state.

Existing command and control systems can help Aegis missile defense systems intercept ballistic missiles, while increasing maritime domain awareness to help U.S. naval assets locate and interdict a threatening vessel approaching U.S. territorial waters to launch an EMP attack. Enhanced early warning and track information is especially important to warn of, and track, ballistic missiles approaching from the south.

This near-term missile defense architecture would help protect America against direct attack — an important fact given the limitations of our ground-based missile defense system in Alaska and California.

It also would begin countering the EMP threat right away. Such an initiative now would also help deter such an attack — other actions (e.g., a new East Coast ground-based missile defense site) will take years and will not provide the needed capability against threats from the south that are growing.

Hardening our critical infrastructure — especially the electric power grid — is the second prong.

Essentially all U.S. civil critical infrastructure depends on the currently unhardened electric grid. Hardening the grid would make it much more likely that key critical infrastructure can return to service quickly after an EMP event.

Congress should pass the Secure High-Voltage Infrastructure for Electricity from Lethal Damage (Shield) Act — legislation stalled for over three years in the House Energy and Commerce Committee — to help reach this objective. It mandates that electric power companies protect the national grid from EMP with technologies the Defense Department used for a half-century to harden military assets.

Other principal recommendations are to:

- Increase funding to deploy additional Aegis interceptors and accelerate development of more effective interceptors, including against ICBMs in their boost- or ascent-phase (the optimum time for interdiction) and especially to counter key EMP threat scenarios, e.g., from ship-borne missiles off our coasts or attacks launched from ground bases by North Korea or Iran.
- Develop quickly the concept of operations and assessment of the number and type of Aegis BMD ships and Aegis Ashore sites needed to protect against EMP threats launched from off our East, West and Gulf coasts — especially to end our vulnerability to attacks from the south; begin deploying/stationing those assets as soon as practical.
- Augment now U.S. early warning and command and control capabilities to provide maritime domain awareness to identify and prevent suspicious vessels from approaching in sufficient proximity to U.S. shores to initiate an EMP attack, and to provide sufficient information to counter such an attack.

To counter a satellite attack from a southern polar trajectory where U.S. radar/sensor coverage is less focused, deploy forward-based sensors to enable our at-sea Aegis ships and California ground-based missile defense site to down a satellite attack.

- Given the short warning time (one to three minutes or less) to enable boost-/ascent-phase interdictions, grant pre-delegation authority for the on-the-scene Aegis missile defense commander to launch current and future air defense interceptors to shoot down satellite launchers during their boost-/ascent-phases.

Concurrently, develop diplomatic initiatives to support Aegis system operations near the North Korean and Iranian coasts to enable these means to counter North Korean and Iranian missile or satellite launches.

- Harden immediately a minimum essential subset of the U.S. electric power grid to assure that the nation's critical infrastructure can be rapidly reconstituted following an EMP attack should the defense fail.

In a natural EMP event from a massive solar storm, hardening the electric power grid would be indispensable. Congress should enact the Shield Act requiring electric utilities to protect our power grid from an EMP event.

Thus, a strategy to counter the danger of a devastating EMP attack on the U.S. must include hardening our electric power infrastructure and a robust missile defense against an EMP attack. This proposed strategy represents a realistic, achievable approach to combat the growing EMP threat confronting the U.S.

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