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[Weak Security For America's Electric Grid Makes Us Vulnerable](#)

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The U.S. conducts airstrikes in Syria to prevent terrorist acts here at home. At the same time, U.S. utilities leverage a weak regulatory process to minimize responsibility for protecting critical electric grid facilities.

Overseas military action is not enough to protect the public. We also need effective defensive measures for our critical infrastructure, starting with the grid upon which modern life depends. Unfortunately, electric grid security is weak, and the regulatory process is failing.

The vulnerability of America's electric grid is well-known. In March 2014, a leaked staff analysis from the Federal Energy Regulatory Commission (FERC) revealed that an attack on only nine critical transformer substations could bring down our continental grid for 18 months.

According to this federal grid regulator, an attack on just four substations could black out the grid from the Rocky Mountains to the East Coast. An attack on just three could black out California and 10 other western states. Replacing the custom-made transformers to restore power would take months, using equipment primarily from foreign suppliers.

Repeated incidents at grid facilities have already demonstrated the feasibility of coordinated attack using just a few operatives. In June 2014, intruders cut the fence at a generation plant in the border city of Nogales, Ariz., and executed an incendiary attack.

In April 2013, snipers shot out 17 high-voltage transformers at the Metcalf substation outside of San Jose, Calif., nearly causing a blackout for Silicon Valley and San Francisco.

Despite publicity, security remains lax. In an embarrassing episode just before Labor Day, thieves cut the fence at Metcalf, stayed on site for 45 minutes and departed with construction equipment. Pacific Gas & Electric admitted that alarms had sounded at their control center, but 24-hour private guards never responded.

Over the summer, actress Kelly Carlson took a film crew to transformer substations in California and Arizona. In a YouTube video, Carlson says that she feared arrest during her project to publicize electric grid vulnerabilities.

She holds a certification as a security guard and points out, "One of the things you need to do as a guard is approach anybody staring at your facility with a camera and question them and then call authorities." The film crew stood at substation fences for over an hour but was never confronted by guards or local authorities.

The federal process to regulate electric grid security is badly broken. Responsibility for setting grid security standards has been delegated to an industry self-regulatory organization, the North American Electric Reliability Corporation (NERC).

In May 2013, only three weeks after the Metcalf attack, a key NERC committee voted to cancel its project for a physical security standard. Hamstrung by inadequate legislative authority and influenced by industry lobbying, federal regulator FERC waited a year after Metcalf before reinitiating a standard for grid security.

Protecting key grid facilities would greatly reduce the threat from terrorists and be cost-effective. According to former FERC chairman Jon Wellinghoff, about 100 critical, high-voltage substations need protection from physical attack. Just 16 regional control centers supervise daily grid operations and manage power restoration. There are 50 large-generation plants with capacity of two gigawatts or more.

All of these facilities need mandatory physical protection, but the pending security standard exempts all generation plants and three major control centers supervising power for 100 million Americans. Because the industry-written standard does not have specific requirements other than self-devised security plans, some remote substations may remain unguarded.

State governments retain authority to assure the safety and reliability of their grids. Some states have already begun to act without waiting for the federal government. For example, south of Washington D.C., Virginia state police have guarded critical transformer substations.

To deter those who might attack our grid, police and National Guard troops should conduct rapid-deployment drills. At times of severe threat, government authorities must protect critical grid facilities; experience has already shown that private security is not enough. The federal government must exercise legal authority to set and enforce grid security standards for all "critical impact" facilities.

The time to protect our electric grid is now, not after the first successful attack is executed. While America dawdles, foreign adversaries study our grid and make war plans.

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