



EMP THREATS

**PROTECTING YOUR
CRITICAL ELECTRIC POWER GRID
INFRASTRUCTURE**



THE SUREST SOLUTION BY ANY MEASURE™

 **ETS-LINDGREN**®

An ESCO Technologies Company

ets-lindgren.com

AN EMP ATTACK CAN BE DEVASTATING



DESTRUCTIVE AND UNTRACEABLE

Of all the threats to a utility provider's required operational computer systems and supervisory control and data acquisition (SCADA), none is more destructive than an electromagnetic pulse (EMP) attack. The extremely fast picosecond rise time and voltages of 50 kV or more, can permanently destroy unprotected circuitry and erase data in less than the blink of an eye — without leaving a forensic trace.

SOURCES OF EMP

There are two sources of EMP: High-Altitude Electromagnetic Pulse (HEMP) produced by a nuclear explosive device detonated in outer space, and Intentional Electromagnetic Interference (IEMI), a man-made field generating device used as an attack weapon. The effects of either a HEMP or IEMI incident can be equally destructive.

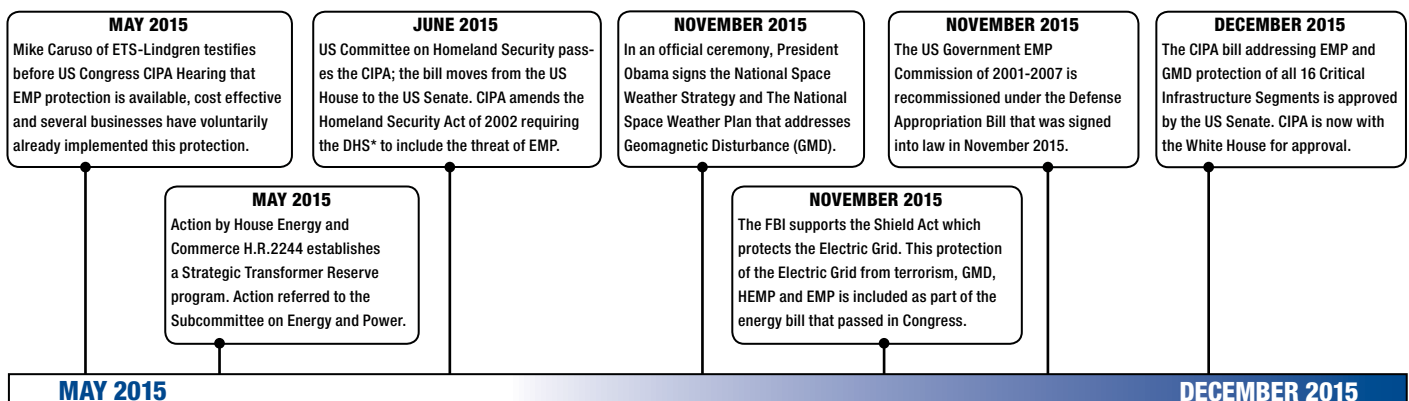
NO LONGER UNTHINKABLE

Rogue nations have the capability to launch nuclear warheads that can cause widespread damage from the effects of HEMP. The warheads do not have to hit specific targets to be destructive. Instead, a single detonation 30 miles above the center of the U.S. will destroy unprotected electronics and electronically stored data in a radius hundreds of miles in circumference on the ground below.

High Power Electromagnetic Weapons (IEMI devices) can easily be created and concealed in a delivery van, a briefcase, or even a backpack. They may not have the wide-radius destruction of a HEMP event, but IEMI's are just as deadly to targets within a close range. Instructions and components for creating IEMI's are readily available on the internet and are easily within the capability of terrorists and criminals to build.

GOVERNMENT REACTION TO POTENTIAL THREATS

Critical Infrastructure Protection Act (CIPA)



* Department of Homeland Security

PROTECTING AGAINST EMP

PROTECTION SOLUTIONS

Switchyard Relays, Network Operations Centers, Substation Control Houses, and Transformers can be protected in a number of ways. Foremost among them are shielded architectural barriers — metal shields — that prevent penetration by externally radiated pulses in free space. Another is the use of specially designed power and signal line filters to block conducted EMP from entering via wiring and cabling. These methods can be used to protect an entire building, or a room where critical equipment is consolidated. ETS-Lindgren offers a full range of proven solutions.

ABOUT US AND OUR PARTNERS

ETS-Lindgren is an ESCO Technologies subsidiary, with more than 80 years of experience and expertise in the detection, measurement and management of electromagnetic energy. We are a proven provider of integrated solutions for protection from the effects of EMP events, and the only company whose EMP solutions have been independently tested and certified to MIL-STD-188-125 by the Little Mountain Test Facility at Hill AFB in Ogden, Utah, a facility owned by the U.S. government and managed by Boeing.

Advising our engineering staff is Dr. William A. Radasky, President of Metatech. Dr. Radasky is an internationally known EMP expert. He serves as Chairman of TC-5 (High-Power Electromagnetics) for the IEEE Electromagnetic Compatibility (EMC) Society and is involved in the development of EMC standards with the International Electrotechnical Commission (IEC) in Geneva, Switzerland.

Our preferred partner for multifaceted EMP projects is Page (Page Southerland Page), a 400-plus person multidisciplinary architecture and engineering firm with offices in the U.S. and abroad. Their work consists largely of projects that benefit from integrated disciplines including architecture, engineering, planning, consulting, and commissioning.

Together, we provide proven, comprehensive, and scientifically sound solutions for protecting systems and data from the destructive effects of EMP events.



ETS-Lindgren is a Proud Sister Company of



Learn More About EMP Threats

- **W. A. Radasky, “Fear of frying. Electromagnetic weapons threaten our data networks. Here’s how to stop them.”, IEEE Spectrum, September, 2014**
- **James Woolsey, (former director of the CIA), “The Growing Threat from an EMP Attack.”, Wall Street Journal, August 12, 2014**
- **www.empauthority.com**
- **www.ets-lindgren.com/EMP**
- **www.metatechcorp.com**

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