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EPRI Study Admits EMP Threat to US Electric Grid; Downplays Risk of Catastrophic Blackouts

Exeter, NH—April 29, 2019—The Electric Power Research Institute (EPRI) study, “High Altitude Electromagnetic Pulse and the Bulk Power System,” confirms that a nuclear device detonated in the atmosphere above the continental United States would cause widespread and significant failures of transformer relays necessary to protect other electric grid protective equipment. Despite this finding, the study downplayed the risk of long-term and widespread blackouts caused by electromagnetic pulse (EMP). The EPRI study comes on the heels of a Presidential Executive Order for EMP protection of both government and civilian infrastructure.

“The EPRI study suffers from a wide range of technical gaps and unsubstantiated conclusions,” said Dr. George Baker, a Department of Defense EMP expert and senior advisor to the Congressional EMP Commission. “The EPRI conclusions are premature because they have not conducted essential tests of high voltage transformers to realistic threat levels.”

The EPRI study found “[A]pproximately 5% of the transmission line terminals in a given interconnection could have a Digital Power Relay (DPR) that is disrupted or damaged by the nominal E1 EMP environment that was simulated, whereas approximately 15% could be potentially disrupted or damaged by the scaled (up to 50 kV/m at the most severe location on the ground) E1 EMP environment.” In an apparent contradiction, the study also concluded that “E1 EMP impacts alone were not found to cause immediate, interconnection-scale disruption or blackout of the power grid, but this finding is not conclusive due to uncertainties regarding how damaged DPRs might respond during an actual event.”

“The EPRI study, conducted with financial support from fifty-six electric utilities, does not provide a solid basis for public policy on EMP protection,” said Thomas Popik, president of the Foundation for Resilient Societies. “Utilities, especially generation companies in competitive electricity markets, do not have ready means to recover money spent on EMP protection and therefore have incentive to sponsor reports that downplay risks to the electric grid.”

EPRI’s research plan excluded EMP effects on electric generation plants. The EPRI study disclosed, “[P]otential E1 EMP damage to generator controls and other systems such as automatic generation control (AGC), not included as a part of this study, might affect the long-term operation of the grid.”

“Because the EPRI study deliberately left out generation plants, it defies commonsense to conclude that blackouts will not be caused from EMP. The electric grid cannot operate without generation plants—even non-experts can readily understand this,” observed Mr. Popik.

The [Foundation for Resilient Societies](http://www.resilientsocieties.org) is an Exeter, New Hampshire-based non-profit think tank that advocates for EMP protection of the U.S. electric grid. For interviews with Dr. George Baker and other EMP experts, contact Melissa Hancock at media@resilientsocieties.org or 855-688-2430, extension 2.