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Resilient Societies Urges State and Local Governments for Electromagnetic Pulse Protection; American Rescue Plan Act 2021 Contains Funds for Broadband Infrastructure Investments

Exeter, NH—March 15, 2021. The American Rescue Plan Act of 2021, the latest COVID-19 stimulus bill, contains \$325.5 billion that can be used for infrastructure investments by state and local governments, including improvements in broadband communications. The Foundation for Resilient Societies urges state and local governments to use some of this funding for electromagnetic pulse protection of broadband connections between electric grid control rooms and critical transmission substations.

“Telecommunications and electric grids are interdependent infrastructures,” said Ambassador Henry Cooper, a director of the Foundation for Resilient Societies and an advocate for critical infrastructure protection against electromagnetic pulse. “This latest funding could be used to implement pilot projects for resilient communications. Long-duration backup power, a key part of our proposal, would help to protect against a wide range of disasters. Electric grid and telecommunication protections need to start at the local level.”

Electromagnetic pulse (EMP) results from the detonation of nuclear weapons in the upper atmosphere. Geomagnetic Disturbance (GMD)—a closely-related natural phenomenon—is caused by the ejection of charged particles from the sun impacting the earth’s magnetic field. The distortion of the earth’s magnetic field results in solar storms which produce harmful currents in long-distance transmission lines. Depending on GMD intensity, cascading collapse and permanent damage to electric grid equipment can occur. A long-term electric grid outage can be caused by EMP, cyberattack, physical attack, or a natural disaster such as a solar storm. Such an event could result in widespread deaths from critical infrastructure collapse, including but not limited to water supply, food systems, transportation services, healthcare, communications and other sectors.

The Foundation for Resilient Societies has released two reports, [*Estimating the Cost of Protecting the U.S. Electric Grid from Electromagnetic Pulse*](#) and a companion report, [*Protecting U.S. Electric Grid Communications from Electromagnetic Pulse*](#). On a nationwide basis, the publications contain the first publicly available inventory of vulnerable electric grid equipment and an assessment of costs to protect critical grid components. The reports calculate specific investments in EMP mitigation using per-unit protection costs multiplied by counts of equipment to be protected.

“For electric grid communications to be protected against electromagnetic pulses, decision makers must have a handle on potential costs,” said Thomas Popik, chairman of the Foundation for Resilient Societies. “Because our cost estimation methodology is straightforward, it can be adapted to specific geographic regions and grid configurations.”

The Foundation for Resilient Societies estimates baseline EMP/GMD protection costs for the high voltage portion of the U.S. electric grid would be approximately five percent of the annual defense budget or \$26 billion per year. To protect communications systems for the U.S. electric grid would cost approximately \$3 billion per year, including installation of long-duration backup power that would help protect against cyberattack and physical attack, as well as EMP and GMD.

The Foundation for Resilient Societies is a 501(c)(3) nonprofit with the mission of boosting critical infrastructure resilience and recoverability against infrequently occurring disasters. For more information, email media@resilientsocieties.org or call (855) 688-2430 extension. 2.