

Electric Grids Worldwide Vulnerable to Electromagnetic Pulse (EMP) Effects

Electromagnetic Pulse Causes Cross-Border National Security, Economic, and Nuclear Safety Risks

London UK(May 14, 2012)—Electric grids worldwide are vulnerable to both natural and man-made electromagnetic pulse (EMP) effects according to senior government officials and technical experts attending the World Summit on Infrastructure Security taking place in the U.K. Parliament in London on May 14 and 15, 2012. Electromagnetic pulse is a burst of energy causing harmful currents in electric grid transmission lines; EMP can be caused by charged particles emitted from the sun during solar flares and also by detonation of nuclear weapons in the upper atmosphere.

Speaking at the Summit will be Rt. Hon. Philip Hammond MP, Secretary of State for Defence, UK; Rt. Hon. James Arbuthnot MP, Chair, Parliamentary Defence Committee, UK; Congresswoman Yvette Clarke, House Committee on Homeland Security, US; and Congressman Trent Franks, House Armed Services Committee, US.

Also speaking at the Summit will be Dr. Peter Vincent Pry, Executive Director of the Task Force on National and Homeland Security. The Task Force is the successor organization to the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack, established by the U.S. Congress.

"U.S. critical infrastructures are presently unprotected from EMP. All critical infrastructures depend directly or indirectly upon electronics and electricity, especially upon the electric power grid, that is especially vulnerable to EMP. Thus, a nuclear EMP attack could collapse all the critical infrastructures—electric power, communications, transportation, banking and finance, food and water—that sustain modern economies and the lives of millions," warned Dr. Pry and Dr. William Graham in a joint prepared statement. Dr. William R. Graham was Chairman of the EMP Commission and served as White House Science Advisor to President Ronald Reagan and Acting Administrator of NASA. "Solar flares and coronal mass ejections from the Sun can generate geomagnetic storms on Earth with effects similar to the EMP from a nuclear weapon."

The British Parliament's Defense Committee recently completed an independent investigation and released an official report warning that geomagnetic storms, and nuclear and non-nuclear EMP attacks, all can cause catastrophic collapse of the UK electric grid.

Other countries that have already experienced electric grid blackouts or critical infrastructure damage from natural electromagnetic pulse include Canada, Sweden, South Africa, and New Zealand. Countries at high latitudes, with long electric transmission lines, and with igneous rock formations are more vulnerable to natural electromagnetic pulse. Any country dependent on electric power is vulnerable to man-made electromagnetic pulse. Because of global economic and national security interdependencies, electromagnetic pulse represents a threat to all nations, even if just a few countries are affected by any one event.

Because the United States is a major exporter of food, a natural or man-made electromagnetic pulse event in the U.S. could cause wide-ranging food shortages and even famine. An electromagnetic pulse event in the UK would affect the London financial hub and could destabilize the worldwide financial system.

Military facilities in developed countries are nearly entirely dependent on power from the commercial electric grid. Assistant U.S. Secretary of Defense Paul Stockton, also a speaker at the Summit, testified before the U.S. House Energy and Commerce Committee, "The Department of Defense relies on commercial electric power for nearly 99% of its power needs at military installations... The threat posed by space weather [electromagnetic pulse] events is a serious challenge to our national security."

"Governments worldwide must cooperate to set international standards for protection against electromagnetic pulse. Pilot programs using equipment that is already commercially available should be launched to find the most cost-effective protective measures," said Dr. Peter Vincent Pry, Executive Director of the Task Force on National and Homeland Security, a successor organization to the Congressional EMP Commission. "Continued research should not become an excuse for doing nothing. As Commissioner Cheryl LaFleur of the U.S. Federal Energy Regulatory Commission declared at last year's Summit: 'We have done enough studies! It is time to act!'" said Dr. Pry.

For more information, the following participants in the World Summit on Infrastructure Security are available. All are members of the Task Force on National and Homeland Security:

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