

# Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack

Established by Congress through Title X, National Defense Authorization Act for Fiscal Year 2006

The Honorable Gregory B. Jaczko  
Chairman  
U.S. Nuclear Regulatory Commission  
Mail Stop O-16G4  
Washington, D.C. 20555-0001

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Dear Chairman Jaczko:

I am writing you as the Chairman of the Congressionally mandated Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack as well as the former Science Advisor to the President and Director of the Office of Science and Technology Policy, in the Executive Office of the President from 1986 to 1989. This letter is to urge you, as you form plans to protect U.S. nuclear reactors from Fukushima-type disasters where electric power to support nuclear plant operations is lost for a protracted period, to take account of the very real threats from a great geomagnetic storm and from a nuclear EMP attack.

An EMP can be generated naturally by a solar flare or coronal mass ejection from the Sun, which can produce a great geomagnetic storm on the Earth similar to some aspects of an EMP attack from a high-yield nuclear weapon, with similar catastrophic consequences. A great geomagnetic storm could cause the collapse of the electric grid and other critical infrastructures-- transportation, communications, banking and finance, food and water--for a protracted period of months or years. A study by the National Academy of Sciences independently confirmed the EMP Commission's assessment that, if a great geomagnetic storm like the 1859 Carrington Event recurred today, recovery of the national electric power grid would take 4 to 10 years.

Such an event could also cause operators of the 108 nuclear plants in the United States to lose the ability to perform a safe, controlled shutdown of their power reactors, producing a Fukushima-like disaster on a large scale.

Although great geomagnetic storms are rare, estimated to occur about once a century, most experts assess that we are probably overdue. Indeed, many scientists are concerned that the approaching solar maximum in 2012-2013, characterized by increased solar flares and coronal mass ejections, may produce great geomagnetic storms. The solar maximum recurs every eleven years.

Moreover, there is no doubt that all the capabilities exist for an EMP to be generated by a terrorist or rogue state nuclear-armed missile, perhaps launched off a ship near our shores to preserve anonymity, and burst at high-altitude over the United States. In this manner, a single crude nuclear weapon, lofted by a primitive short-range missile, could generate an EMP that would disable and/or destroy electronics and electric power systems across large, highly populated areas of the continental United States, where many more nuclear power reactors are located than found at Fukushima. Such an attack would also collapse the critical infrastructures, leaving nuclear power plants isolated from external support, including from the electric power grid, for a protracted period of at least months and probably years. Given the current state of unpreparedness, a nuclear EMP attack could cause Fukushima-like disasters nationwide.

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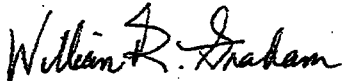
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Therefore, I urge you to implement the policies, planning, emergency control system protection, and technical safeguards that are so urgently needed to protect nuclear reactors from natural and manmade disasters—including EMP events.

Please inform me of the response you and the NRC plan to take in response to this letter and the threat of both natural and adversary-induced EMP damage to the nuclear power reactors of the United States.

Sincerely,



Dr. William R. Graham  
Chairman  
Commission to Assess the Threat to the United States  
from Electromagnetic Pulse (EMP) Attack



co-signed by  
Dr. Peter Vincent Pry  
President  
EMPact America  
301-481-4715

cc: The Honorable Steven Chu, Secretary of Energy  
The Honorable John P. Holdren, Director, Office of Science and Technology Policy,  
The White House  
Thomas E. Donilon, National Security Advisor to the President  
Senator Jeff Bingaman, Chairman, Committee on Energy and Natural Resources  
Senator Lisa Murkowski, Ranking Member, Committee on Energy and Natural Resources  
Senator Joseph Lieberman, Chairman, Committee on Homeland Security and Governmental  
Affairs  
Senator Susan Collins, Ranking Member, Committee on Homeland Security and  
Governmental Affairs  
Senator Carl Levin, Chairman, Senate Armed Services Committee  
Senator John McCain, Ranking Member, Senate Armed Services Committee  
Rep. Fred Upton, Chairman, Committee on Energy and Commerce  
Rep. Henry Waxman, Ranking Member, Committee on Energy and Commerce  
Rep. Peter King, Chairman, Committee on Homeland Security  
Rep. Bennie Thompson, Ranking Member, Committee on Homeland Security  
Rep. Buck McKeon, Chairman, House Armed Services Committee  
Rep. Adam Smith, Ranking Member, House Armed Services Committee  
Rep. Roscoe Bartlett, Co-Chair, Congressional Caucus on EMP  
Rep. Trent Franks, Co-Chair, Congressional Caucus on EMP  
Rep. Yvette Clarke, Co-Chair, Congressional Caucus on EMP