

EMP Ignorance Is Bliss

By

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Kelsey Atherton in “Electromagnetic Pulses Are The Last Thing You Need to Worry About in a Nuclear Explosion” (Foreign Policy July 21, 2020) describes my Task Force on National and Homeland Security (a congressional advisory board) as among the culprits exaggerating the threat from EMP, dismissed by Atherton as “one of America’s weirdest strategic obsessions.”

Unfortunately and irresponsibly, Foreign Policy has not published my rebuttal to Atherton’s erroneous article, allowing their readers to be misinformed.

High-altitude electromagnetic pulse (HEMP) is generated by a nuclear weapon detonated exo-atmospherically, at an altitude of 30-400 kilometers. No blast or fire or radioactive fallout from a nuclear explosion in the vacuum of outer space reaches the surface of the Earth, only the HEMP. A single nuclear weapon can generate a HEMP field covering much of North America that would blackout electric grids and other life-sustaining critical infrastructures, paralyze unprotected military forces, and blind radar and satellite National Technical Means needed to identify the attacker.

Atherton does not appear to understand the basic physics of HEMP attack. HEMP does not produce blast, or thermal effects, or radioactive fallout as happens when a nuclear weapon is surface burst or detonated in the atmosphere—which is why nuclear HEMP attack as a matter of science and strategy is in a category all by itself.

The obvious strategic advantages and threat from a nuclear HEMP attack have worried the Pentagon for decades, and are a growing concern given the emergence of new technologies like nuclear Super-EMP weapons and increasingly powerful Non-Nuclear EMP weapons in the hands of Russia, China, North Korea, and potentially Iran.

Since 1963, every Democrat and Republican administration and Congress has rightly supported Defense Department programs investing billions of dollars to protect U.S. strategic forces and C3I from the paralyzing effects of EMP attack. Yet, contrary to Atherton, the national electric grid and other life-sustaining critical infrastructures, including those vital to military power projection, have never been protected.

Contrary to Atherton, if a Super-EMP weapon is used, which generates field strengths exceeding U.S. military hardening standards, U.S. retaliatory forces could be paralyzed.

Atherton makes no mention of the bipartisan Congressional EMP Commission, the bipartisan Congressional Strategic Posture Commission, or the USAF Electromagnetic Defense Task Force, comprising the nation’s foremost experts on EMP, nuclear weapons and strategy. All independently warn that potential adversaries, including terrorists, could use one or a few nuclear weapons to make an EMP attack that would blackout the national electric grid and other life-sustaining critical infrastructures, bringing America to its knees.

Atherton appears unaware of, or conceals from his readers, the below official assessments of the EMP threat, by expert congressional commissions with access to classified information, and by

the White House EMP Executive Order, representing the coordinated view of all relevant U.S. Government departments and agencies:

--“A long-term outage owing to EMP could disable most critical supply chains, leaving the U.S. population living in conditions similar to centuries past, prior to the advent of electric power. In the 1800s, the U.S. population was less than 60 million, and those people had many skills and assets necessary for survival without today’s infrastructure. An extended blackout today could result in the death of a large fraction of the American people through the effects of societal collapse, disease, and starvation.” Congressional EMP Commission, Assessing the Threat from EMP Attack (July 2017).

--“Lastly, the United States should take steps to reduce the vulnerability of the nation and the military to attacks with weapons designed to produce electromagnetic pulse (EMP) effects...U.S. power projection forces might be subjected to an EMP attack...The homeland might be attacked by terrorists or even state actors with an eye to crippling the U.S. economy and American society. From a technical perspective, it is possible that such attacks could have catastrophic consequences. For example, successful attacks could shut down the electrical system, disable the internet and computers and the economic activity on which they depend, incapacitate transportation systems (and thus the delivery of food and other goods)...” Congressional Strategic Posture Commission, America’s Strategic Posture (2009).

--“An electromagnetic pulse (EMP) has the potential to disrupt, degrade, and damage technology and critical infrastructure systems. Human-made or naturally occurring EMPs can affect large geographic areas, disrupting elements critical to the Nation’s security and economic prosperity, and could adversely affect global commerce and stability. The Federal Government must foster sustainable, efficient, and cost-effective approaches to improving the Nation’s resilience to the effects of EMPs.” The White House, Executive Order on Coordinating National Resilience to Electromagnetic Pulses (March 26, 2019).

The EMP Commission warns an EMP attack could kill millions of Americans, up to 90% of the population, from starvation, disease, and societal collapse. And the EMP attack could be executed anonymously, by satellite or launched from a freighter or even using a balloon—so the U.S. would not know against whom to retaliate.

Atherton’s dismissal of the EMP threat relies chiefly on a 1983 New York Times article by Richard Garwin, who Atherton misinterprets or misrepresents.

In fact, Garwin’s article does not dismiss the EMP threat, but highlights the importance of Defense Department programs protecting U.S. nuclear retaliatory capabilities from EMP during the Cold War. The EMP Commission warns that the EMP hardening programs, described in Garwin’s article, fell into neglect after the Cold War.

Garwin’s article was written during the Cold War, when the chief scenario was a massive nuclear exchange between the U.S. and USSR; before the advent of nuclear Super-EMP weapons and modern Non-Nuclear EMP weapons; and before the nuclearization of North Korea, possibly Iran and nuclear terrorists, who might perform an EMP attack to get “the biggest bang for the buck.”

Or as the EMP Commission phrased it: “Therefore, terrorists or state actors that possess relatively unsophisticated missiles armed with nuclear weapons may well calculate that, instead of destroying a city or military base, they may obtain the greatest political-military utility from one or a few such weapons by using them—or threatening their use—in an EMP attack.”

Atherton ignores, or is unaware of, Richard Garwin’s testimony to the Senate Committee on Homeland Security on July 22, 2015, advocating protection of the national electric grid from natural (solar storm generated) and nuclear EMP.

Atherton describes as “laughable” that adversaries could or would make a nuclear EMP attack using one or a few weapons, instead of making a large-scale nuclear attack that blasts U.S. cities. But Atherton is obviously unfamiliar with the military doctrines of Russia, China, North Korea, and Iran that describe doing exactly what Atherton denies, making nuclear EMP attacks as a dimension of Information Warfare, Cyber Warfare, and Electronic Warfare. (See the EMP Commission report Nuclear EMP Attack Scenarios and Combined-Arms Cyber Warfare July 2017.)

Atherton appears ignorant of Non-Nuclear EMP weapons, like the USAF CHAMP, that are widely available now, even to terrorists, that could be used to inflict a nationwide blackout.

Atherton appears ignorant of the natural EMP threat from the Sun. A solar superstorm, like the 1859 Carrington Event, is inevitable, likelihood estimated by NASA to be 12% per decade, which could blackout electric grids and life-sustaining critical infrastructures worldwide, putting at risk the lives of billions.

It is disappointing that Foreign Policy would publish an article on EMP by someone as ignorant as Atherton, whose views are contradicted by real experts such as Dr. William Graham, Dr. James Schlesinger, and Dr. William Perry.

Graham served as Chairman of the EMP Commission, was on the defense science team that discovered the nuclear EMP phenomenon after the 1962 STARFISH PRIME high-altitude nuclear test, worked on protecting U.S. military systems from EMP since 1963, was President Reagan's White House Science Advisor and ran NASA. Schlesinger and Perry Co-Chaired the Strategic Posture Commission, that warned a nuclear EMP attack by rogue states or terrorists is a real possibility that needs to be addressed urgently. Schlesinger was former Secretary of Defense and Director of CIA. Perry was President Clinton's Secretary of Defense.

Atherton's article is replete with basic errors of fact parading ignorance of EMP:

--In his first paragraph, high-altitude EMP (HEMP), the subject of Atherton's article, was not a factor in the Hiroshima and Nagasaki atomic bombings. No HEMP was generated because both bombings were fused for low-altitude atmospheric detonations. Significant HEMP requires detonation at high-altitude, above 30 kilometers.

--Atherton references a National Public Radio (NPR) interview with Jeffrey Lewis who found "laughable" a warning by Ambassador R. James Woolsey, former Director of Central Intelligence, that North Korea could make an EMP attack on the United States. Lewis is a

political scientist and academic who knows nothing about EMP, but is often cited as an expert on everything nuclear by an equally ignorant press.

--North Korea has the last laugh on Lewis, NPR, and Atherton. Atherton is apparently ignorant that North Korea described its H-bomb, successfully tested in September 2017, as being capable of delivering a Super-EMP attack. Shortly after the H-bomb test, North Korea published a technical article "The EMP Might of Nuclear Weapons" accurately describing a Super-EMP nuclear weapon. The Congressional EMP Commission warns in its 2017 reports that North Korea could make an EMP attack on the U.S.

--Atherton asserts falsely that civilian critical infrastructures vital to U.S. military operations are hardened against EMP. Some telecommunications are protected, but not against Super-EMP effects, and the electric grid and other civilian critical infrastructures are unprotected.

--Atherton wrongly implies most military forces are protected against EMP, when very few are protected to 50 kilovolts/meter, and none against Super-EMP effects (above 50 kvs/meter). Even strategic forces may no longer be adequately protected, according to the Congressional EMP Commission.

Atherton wrongly implies that EMP is the "obsession" of individuals and small unofficial groups, ignoring the work of the Congressional EMP Commission, the Congressional Strategic Posture Commission, and the USAF Electromagnetic Defense Task Force that all contradict Atherton's absurd assertion that EMPs "are the last thing you need to worry about in a nuclear explosion." These official groups, funded by the Defense Department with access to classified information and the best expertise on nuclear weapons and their effects, all agree that the first, most likely, and perhaps only necessary nuclear attack on the U.S., its overseas forces and allies, might be an EMP.

Atherton is a classic example of an "instant EMP expert" who knows nothing about EMP but unwisely offers uninformed opinions to the public anyway, akin to a medical quack peddling fake cures and false hope to cancer victims. Contrary to non-expert Atherton, EMP is a very real threat that could kill millions of Americans.

For the real story about EMP, see the unclassified EMP Commission reports at www.firstempcommission.org

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