

The Scariest (Disaster) Book I Have Ever Read, Part I



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The most terrifying weapon facing the U.S. may already be in our enemies' hands. Are you prepared for the ultimate disaster? In Part I of his three-part series, author Leo Wrobel explains how an electromagnetic pulse can damage the world as we know it today

It is often in science fiction that one gains a perspective on possible futures, which is probably why I am such an avid reader of such books. Once in a while a book comes out that takes a unique perspective on Disaster Recovery. Combine my reading habits with my propensity to write on little known or seldom considered disaster recovery topics, and an article series like this one pops up. Believe it or not, some of my articles start with a topic from a science fiction novel, which after consideration turns out to be too real to ignore. This is one of them.

I recently read a book called One Second After by William R. Forstchen. (The foreword for the book was written by Newt Gingrich when he was house speaker.) The book made a great impression on me. It portrays a disaster that surprisingly, nobody thinks about in the contingency planning community. I lent the book to a dear friend who is also an electrical engineer. He called it "The scariest book I have ever read."

I can say without qualification that the premise of this book contains the most terrifying possibility facing disaster recovery planners today that I have considered in my 25 years in this business. It starts like this:

A barge in the Gulf of Mexico launches a single missile carrying a single nuclear weapon. The missile does not target any particular American city. Instead, it is detonated about 200 miles above the Kansas prairie. The result of that single missile has been characterized by some writers as "a giant continental time machine." It creates a sequence of events that transposes all 300 million of us back more than a century in technology and effectively destroys our country. The event had nothing to do with blast, radiation, or chemical/germ warfare. The event is called an *electromagnetic pulse*, or *EMP*. The phenomenon known as EMP is real, and it's terrifying.

A single nuclear bomb that exploded over the Midwest would generate an EMP that would destroy the whole U.S. power grid and virtually everything connected to it. Particularly hard hit would be the silicon chips that are at the heart of every electronic device. While military and intelligence networks may be shielded against EMP, most of the rest of the country's technological infrastructure is not, and the bad guys know this. An EMP attack would wipe out computers and the Internet. There would be no electricity, perhaps for years. Gasoline pumps would not work, and aircraft would fall from the skies. Heat and air conditioning would shut down; supermarkets would close for want of distribution. Telephones would go dead, both wireless and wireline. Water would go out, and radio and television sets would not turn on. Banks and ATMs would cease, credit cards would become useless, and we would become a barter society again for cash, gold, or worse. Emergency services would stop, and hospitals would lose. In the ensuing chaos, most Americans would die from starvation in months. In the fiction novel, the population of the United States goes from 300 million to 30 million in a year.

The grim part is that experts agree this could happen, yet virtually nothing is being done on the national level to mitigate this threat.

The Threat of an EMP

According to Dr. Peter Vincent Pry, a leading expert on this subject in a recent interview entitled "EMP Attack Could Wipe Out U.S.," the facts are sobering:

"We have a 60-day food supply in big regional warehouses," Pry claims. "Typically, when hurricanes take out the electric power grid locally, that food spoils because it needs temperature control systems and refrigerators to keep it

preserved. And if you lose the electric grid across the whole country, you're going to lose all that food that is the best hope for feeding the American people.

NOTE

Dr. Peter Vincent Pry is president of EMPACT America. He has served on the Commission on the Strategic Posture of the United States established by the U.S. Congress (2008-2009); as director of the United States Nuclear Strategy Forum, an advisory body to Congress on policies to counter weapons of mass destruction (2005-2009); on the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack (also commonly known as the EMP Commission), established by the U.S. Congress (2001-2008); as professional staff on the House Armed Services Committee of the U.S. Congress, with portfolios in nuclear strategy, WMD, Russia, China, NATO, the Middle East, intelligence, and terrorism (1995-2001); as an intelligence officer with the Central Intelligence Agency responsible for analyzing Soviet and Russian nuclear strategy and operational plans (1985-1995), where he was formally recognized by the agency for his expertise, ground-breaking research, and outstanding accomplishments during his 10 years of service; and as a verification analyst at the U.S. Arms Control and Disarmament Agency responsible for assessing Soviet compliance with nuclear and strategic forces arms control treaties (1984-1985). Dr. Pry also played a key role in running hearings in Congress that warned about how terrorists and rogue states could pose an EMP threat, establishing the Congressional EMP Commission, helping the commission develop plans to protect the United States from EMP, and working closely with senior scientists who first discovered the nuclear EMP phenomenon. Dr. Pry holds two PhDs (international relations and U.S. history), and a certificate in nuclear weapons design from the USAF Weapons Laboratory. He has also written numerous books on national security issues.

A 2008 report of a Congressional Commission found that the country is shockingly unprepared for an EMP attack.

Terrorists or countries like Iran or North Korea could launch an EMP attack and possibly end us as a civilization, and take us out as an actor on the world stage, Pry says.

In fact, an Iranian military journal has floated around the idea of launching an EMP attack as the key to defeating the U.S. In an article titled "Electronics to Determine Fate of Future Wars," the journal explains how an EMP attack on America's electronic infrastructure would bring the country to its knees:

"Once you confuse the enemy communication network, you can also disrupt the work of the enemy command- and decision-making center," the article states. "Even worse today when you disable a country's military high command through disruption of communications, you will, in effect, disrupt all the affairs of that country. If the world's industrial countries fail to devise effective ways to defend themselves against dangerous electronic assaults, then they will disintegrate within a few years. American soldiers would not be able to find food to eat nor would they be able to fire a single shot."

Reporting to Congress, the EMP Commission concluded that little in the private sector is hardened to withstand an EMP attack, and even the U.S. military itself has only limited protection. In 2001, former CIA chief James Woolsey affirmed these facts and urged the country to take steps necessary to protect against the potentially devastating consequences. In testimony before the House International Terrorism and Non-Proliferation Subcommittee, Woolsey referred to the nuclear EMP threat as "a SCUD in a bucket" where:

- "A simple ballistic missile from a stockpile somewhere in the world outfitted on something like a tramp steamer and fired from some distance offshore into an American city or to a high altitude, thereby creating an electromagnetic pulse effect, which could well be one of the most damaging ways of using a nuclear weapon."
- "We do not have the luxury of assuming that Iran, if it develops fissionable materials, for example, would not share it under some circumstances with al-Qaeda operatives. We don't have the luxury of believing that just because North Korea is a communist state, it would not work under some circumstance to sell its fissionable material to Hezbollah or al-Qaeda."

The author is not picking on Iran, but imagine if such a weapon fell into the hands of al-Qaeda or other terrorists who are willing to commit suicide to destroy America. There is no shortage of such fanatics today, and certainly no shortage of nuclear weapons.

NOTE

Sources place the number in Russia at 13,000-20,000; the U.S. at 10,500-12,000; China at 400; the U.K. and France at 200 and 500, respectively; and others like India and Pakistan with less than 10 each. The list of countries actively pursuing such weapons includes Iran, Libya, North Korea, and others.

What is really spooky is the prospect of a relatively unsophisticated EMP weapon falling into the hands of terrorists or rogue states. Again, I take a cue from a fictional work, the movie *The Sum of All Fears*. In that movie, Morgan Freeman (who played CIA Director William Cabot) asked the president why their contingency plans only revolved around Russia. The president responded that Russia was the only country that had 10,000 nuclear weapons to worry about. Cabot replied, "It's the guy with ONE that I worry about." My point prey.

Nuclear weapons are horrendously expensive to produce and an unsustainable economic drain to all but the largest global economies. It only takes one thought to hang an "Out of Business" sign over the United States or any other global superpower. The specifics follow, and they do not make for pleasant reading.

Impact of an EMP

An EMP occurs when an enemy sets off a nuclear explosion high in the atmosphere. The EMP generated by the blast destroys all electronics and low earth orbit satellites in its line of sight. Unlike the nuclear attack scenarios dating back to the Cold War, no one would die immediately in the initial attack. The subsequent effects, however, are the stuff of nightmares. The pulse would wipe out virtually all electronics and telecommunications, and the national power grid. Millions would die in days from want of modern medical care, prescription drugs like insulin, or in fires. Fire and EMF equipment would be in short supply due to fried electronic ignition systems. In fact, any motor vehicles manufactured after the mid 1970s may not run at all. Within a month, starvation would begin because farmers wouldn't be able to harvest crops, and distributors wouldn't be able to get food to supermarkets. Hunger would begin almost immediately due to massive food hoarding. So would riots, looting, and civil unrest. Needless to say, any meaningful economic activity would be at a standstill. Imagine a power blackout that lasted for years.

The Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack (or the EMP Commission) was created in 2000 to examine the possibility of an EMP attack and its aftermath. The commission delivered reports to Congress beginning in 2004. Despite dire warnings, little has been done on the national level to assuage this very real threat. While the Department of Homeland Security (DHS) concentrates on confiscating toothpaste and patting down little old ladies in airports, we face a real threat (being flashed back into the 19th century in a single day). Indeed, one wonders why any enemy of the U.S. would contemplate any other kind of attack other than with an EMP weapon. In the Cold War days, the phrase "More bang for the buck, more rubble for the ruble" circulated among cynical war planners. Bursting a relatively low yield device over Kansas probably represents the ultimate example of this concept, and gets the same job done by our adversary for far fewer dollars.

We've Known About the Threat for Awhile

During the U.S.'s first nuclear test in July 1945, electronic equipment was shielded due to expectation of an EMP resulting from the detonation. The official history for that first test states, "All signal lines were completely shielded, in many cases doubly shielded. In spite of this, many records were lost because of spurious pickup at the time of the explosion that paralyzed the recording equipment."

In the summer of 1962, the U.S. tested a 1.44 megaton nuclear device in space, 250 miles above the Pacific Ocean near Johnson Island. The test, named Starfish Prime, proved to scientists that effects of a high-altitude nuclear explosion were much larger than had been previously calculated. It was hard to keep these facts a secret because the test caused electrical damage some 900 miles from ground zero in Hawaii. Reportedly, about 300 streetlights went out, burglar alarms went off, and a telephone company microwave link was damaged.

Note that if the Starfish Prime warhead had been detonated over the northern continental United States (rather than the lower latitudes near Hawaii), the magnitude of the EMP would have been much larger. This is attributable to the greater strength of the Earth's magnetic field over the United States, as well as an orientation of the Earth's magnetic field at high latitudes that is more favorable to the EMP effect.

NOTE

In 1962, the Soviet Union also performed three EMP-producing nuclear tests in space over Kazakhstan. Although the weapons were much smaller than the Starfish Prime test, those tests took place over a populated area at a latitude where the Earth's magnetic field was greater. As a result, the damage caused by the EMP was much greater than in the Starfish Prime nuclear test and even induced an electric surge in a long underground power line, resulting in a fire in the power plant in the city of Karaganda.

OK, so 300 streetlights does not sound like much. Consider the fact, however, that these effects manifested 900 miles from the test. Also, consider the electronics infrastructure of 1962 was far more robust than what is in place today—in effect, the equivalent of a wind-up alarm clock in comparison to a digital watch. There was scarcely a transistor to be found at that time because solid state technology was new. Vacuum tubes, on the other hand, are thousands of times more resistant to EMP. Although the transistor was invented in the mid 1950s, it was not until the early 70s with the advent of the silicon chip that the potential impact of EMP became cause for concern.

Soviet Cold War era military aircraft often had avionics based on vacuum tubes due in part to limitations in Soviet solid-state capabilities at the time, but also based on the proposition that vacuum tube gear would survive better. In 1979, I actually served in Japan when a Soviet MIG-17 defected and turned up in Hokkaido. Given a rare glimpse at this mysterious Soviet fighter plane, U.S. and Japanese authorities chuckled at their can vacuum tubes in the radio and other equipment. I had suspected for years that the technology was used deliberately, because a shooting war at the time could involve tactical nuclear weapons on both sides, and a resultant EMP. Guess I was right.

Summary of Part I

In closing this first article of my three part series, I candidly admit that works like *One Second After*, and *The Sum of All Fears* are works of fiction. Do not make the mistake of confusing them with Santa Claus, the Easter Bunny, or the Loch Ness Monster, though. Fictions can also be future histories, and can be thought-provoking and even terrifying by showing plausible ways of how awful things can happen.

There has been much attention since 9/11 focused on the prospect of terrorism! Personally, I would rather not contribute to the atmosphere of fear and hysteria that often grips our beautiful country these days, or further fan the flames of this paranoia through my articles. Nevertheless, this issue is serious. Whatever the reasons, whatever your personal opinions and politics are, a lot of people in the world have animosity against Americans. With all the attention ranging from chemical attacks, to dirty bombs (otherwise known ironically as Operation Nukes), to actual nuclear or biological strikes on our population centers, how can any serious planner ignore EMP? How can any rational policymaker ignore the ease by which we can be flashed back into an 19th century pre-industrial, *inconsequential* society?

This threat is real, and we should prepare. Some of the steps we should be taking now are covered in articles II and III.
