EMP Survival Q&A: Would Nuclear HEMP Cause Fallout?

Can you imagine something worse than an EMP, a disaster that would take us 100 years back?

It doesn't takes lives in seconds, but rather takes away much of the means of supporting life in a modern culture.

But what if you add a nuclear blast to this scenario?

Mix in the radiation and it gets even worse. right? The world itself would be a radioactive hell, how could anyone survive it? Keep reading to find out the truth!

HEMP (High Altitude Electromagnetic Pulse) is produced when a nuclear weapon is detonated above approximately 20 km (66,000') altitude, but optimal altitude to affect the greatest area possible of the lower 48 states would be 350-450 km.

While the high-altitude detonation of a nuclear weapon used to create HEMP would not likely produce enough fallout to harm people on the ground, it would still be prudent to ready your radiation detection and protection gear.

The Fallout Danger

The real risk of fallout out in this situation would not come from the HEMP or the detonation of the weapon used to generate it, but from escalation of force or the possibility that the HEMP is used to blind radar preceding a nuclear attack.

The fact of the matter is that if nuclear weapons are used in an HEMP attack against any major nuclear power, there is a very real possibility that it could provoke a retaliatory nuclear response.

In 1995, the world was nearly plunged into global thermonuclear war because Russian radar technicians were not properly notified of the launch of a Norwegian sounding rocket, which was mistaken for a US submarine-launched Trident missile. A principle attack scenario Russia plans for is an EMP first strike by the USA from the Barents Sea to take down their radar in preparation for a nuclear first strike.

The missile would only be in the air for about 10 minutes. That is all the time Russia had to decide and it took 8 of those 10 minutes to determine that the missile was headed away from instead of toward Moscow. The US plans for Russia to attack using essentially a mirror of the same tactic.

Because this tactic is so basic to nuclear warfare strategy, it boggles my mind that analysts (though typically scientists as opposed to soldiers) regularly predict that this country or that would somehow see clearly through the fog of war in the wake of a nuclear HEMP attack and respond to it differently than any other nuclear attack.

Add on top of this, the fact that the HEMP would take their radar off-line it becomes doubly unlikely. Then add that some countries have plainly stated that they would not differentiate between high altitude nuclear attacks and ground or air bursts and it becomes triply so.

The fact of the matter is that it is entirely possible that a HEMP strike against any major nuclear power could trigger a broader nuclear exchange. I get that this outcome is very uncomfortable to consider and that even otherwise rational folks tend to project what they imagine they would do in a theoretical situation if they were the individual with their finger on the nuclear trigger.

They opine that cooler, more rational heads would somehow prevail despite the fact that a nuclear power just got nuked and most communications and radar are down because they cannot

imagine any rational person taking a course of action that would condemn millions of Americans to death.

While I would agree that a lesser retaliatory response is likely in response to a lower altitude attack against a single city or localized region, I am not so optimistic that the fog of war in the wake of a high-altitude EMP attack would be easily penetrated.

Since uncertainty about a rocket launch years after the end of the cold war brought us to the brink of nuclear war, I cannot reasonably conclude that an actual nuclear first strike most likely would not result in a response, especially at a time when nuclear threats have already been issued.

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About the Fallout

Nuclear weapons detonate so energetically that a tremendous vacuum is created in the wake of the blast. A shockwave, blinding light and intense heat are produced, so much heat, that matter inside or sucked into the fireball is vaporized.

When detonated at or near ground level, the vacuum lofts enormous volumes of vaporized dirt and debris up into the stratosphere, forming the characteristic mushroom cloud commonly associated with the use of nuclear weapons.

As the mushroom cloud forms, the vaporized material cools and condenses, forming solid particles. The mushroom cloud of cooling radioactive dust and ash is then dispersed and carried by the wind until it falls back to earth as "fallout."

While the alpha particles emitted by the radioactive decay of fallout do not penetrate deeply (they can be blocked by a sheet of paper, your skin or a few centimeters of air) they are extremely damaging when concentrated and orders of

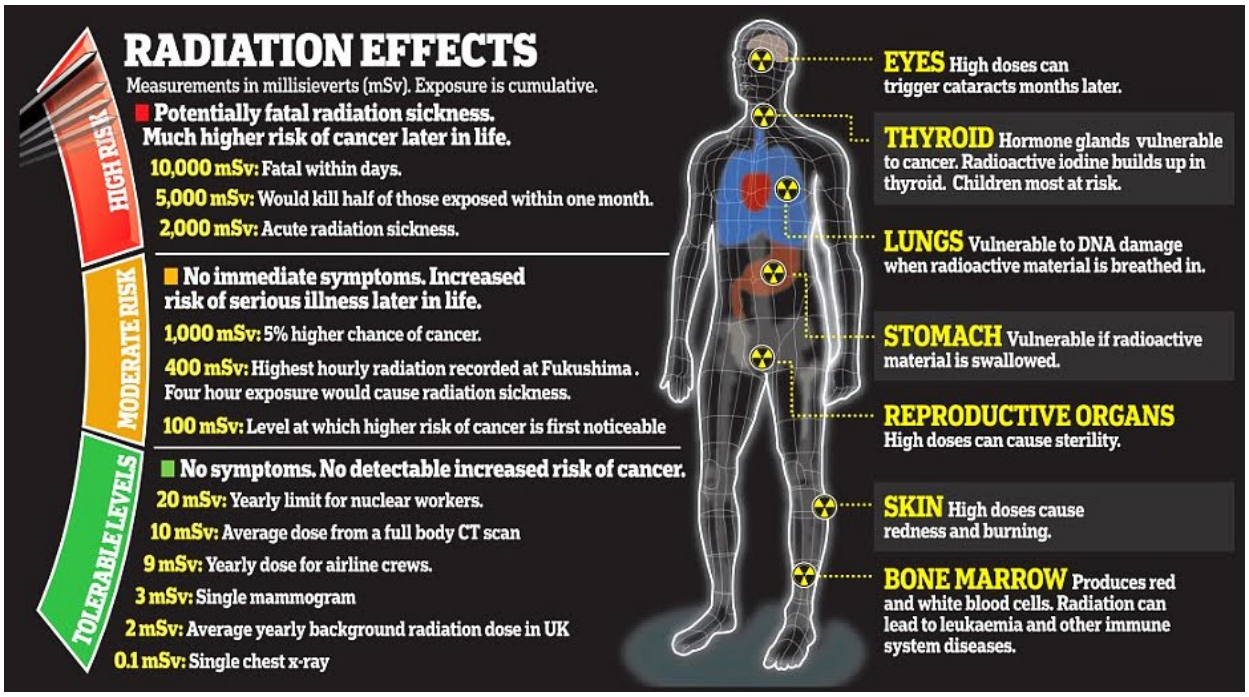
magnitude more damaging when inhaled or ingested.

Fallout can be inhaled into your lungs and stick to anywhere you sweat, particularly the insides of elbows, backs of knees, neck, arm pits, etc. If exposed to fallout, there are a few things you can do:

- Seek professional decontamination from trained first responders, if available.
- Remove clothing and shoes. This alone can remove 90% of contamination. Bag and label for disposal. If this is not expedient due to cold or heat exposure risk, at least remove outer layers and shoes.
- Use a radiation survey meter to do a full body survey, if available.
- Remember that external contamination is far less harmful than internal contamination. Angle water so that it carries contamination away from skin, not over more skin or into eyes, ears, nose or mouth.
- Gently clean skin with tepid water and mild soap with neutral ph. Cold water closes pores trapping contamination and can cause hypothermia. Hot water opens pores enabling particles to penetrate the skin, aggravates thermal burns and you should not breath the water vapor (steam) as it will carry isotopes cleaned off skin. Do not scrub or rub the skin excessively. Excessive scrubbing will do more harm than good. If running water is not available, use a damp cloth. If water is not available use Fuller's Earth clay, clay or clayey soil.
- Rise and gently shampoo hair. Do not use conditioner since it bonds particles to hair. Do not shave hair or skin. Knicks compromise the barrier skin naturally provides. Contaminated hair can be clipped if shampooing is ineffective.
- Wipe eye lids and ears with damp sterile swabs, if available. If not available, use a clean, damp cloth.

Gently blow nose and swab nostrils with sterile swabs, if available. If swabs are tested with survey meter, the swabs must be allowed to dry before surveying for alpha-emitting radioisotopes.

- Brush teeth and rinse frequently.
- Rise with 3% hydrogen peroxide for pharyngeal contamination.
- Use a maximum of 2 decontamination cycles per patient.
- Use a radiation survey meter to do another full body survey, if available.
- Cover any areas of residual radiation with waterproof dressings to prevent contamination of clean areas.



How to Protect Against Fallout Exposure

A basic understanding of how to protect yourself from fallout can greatly reduce exposure. Time, shielding and distance are your allies.

- **Time** – intensity of radiation produced by fallout diminishes over time. The mix of isotopes resulting is complex with some persisting longer than others, so rate of decay can only be estimated, but between two days and two weeks, radiation levels will be less than 1% of

their initial intensity. The longer you can stay sheltered, the lower radiation levels will be outside.

- **Shielding** – the greater the density of materials between you and the radiation, the less radiation will reach you. Earth surrounding a basement, concrete or masonry walls or sandbags provide a measure of shielding from radiation.
- **Distance** – taking shelter in the center of large, multistory building is more effective than in a room nearer and outer wall or the roof. The center of the deepest floor underground would be safest. The same reasoning applies in your own home.

How Situational Awareness Works in case of HEMP

Many preppers invest a great deal of resources in bug out bags, vehicles and locations but would likely sleep through any warning of an HEMP or nuclear strike for lack of a Public Alert Certified All Hazards Radio to receive an alert and automatically warn them in time to get to a shelter. They run $30-$70 and are an oft-overlooked must have that saves many lives every year from a broad range of threats.

After a nuclear attack, there will be many potentially life and death questions and a shortage of information. Is there fallout outside the shelter? Are we being exposed to radiation? How much? Is it safe to go outside and for how long?

Communication infrastructure will likely be severely damaged, especially if the nuclear ground attack is preceded by an HEMP attack. Radiation detection equipment will likely be the only reliable way to answer these questions. An accurate radiation detection instrument can be built using materials you probably have around the house.

If you choose to purchase equipment, research the instrument

you purchase carefully because many civil defense meters are not accurate at some exposure levels and some dosimeters detect ranges of exposure to low to be of much use in nuclear war. After you make your purchases, have your equipment tested and calibrated.

Video first seen on CrypticCRICKET.

Even though high altitude nuclear detonations don't pose a significant fallout risk, any time nukes are popping off, you might consider breaking out the radiation detection equipment and take precautions as opposed to placing your trust in the powers that be.

You are responsible for the safety of your family, not the government, so do not sit around and wait for them to inform you of when it is time to "get off the X" or not. Blind trust did not work out so well for residents of Utah and Nevada after US nuclear testing and they paid a truly terrible price.

Charging and wearing a radiation dosimeter is no big deal. They are about the size of pen, clip to your clothing and measure your exposure to radiation over time.

About High Altitude Burst

When a burst occurs high in the atmosphere, as it would in an HEMP attack, the vacuum it creates cannot loft tons of dirt from the soil which would become fallout in a ground burst, so there would not be a mushroom cloud.

There are still atoms and molecules up there, but the higher up the weapon is detonated, the less matter there is for the leftover fission product to activate and the less fallout is produced. While too little is produced to be a concern at ground level, past high altitude nuclear tests did create bands of radiation in the atmosphere that damaged low earth orbiting satellites as they passed through them.

Up to one-third of low earth orbit satellites in orbit at the time were damaged in some way, and some were rendered useless, so even though fallout would not be a direct danger to folks on the ground, it could still end up affecting us to the degree we are dependent on satellites.

Nuclear Weapon Type & Yield

Creating a high EMP field strength does not require a very powerful nuclear weapon, certainly not a large warhead capable of destroying a city in a nuclear blast near ground level.

Fission weapons in the 2-10 kiloton range (small as nukes go) area far more efficient use of fissile material than thermonuclear (fission-fusion-fission) weapons, making them a very attractive option for nations with small nuclear programs or even a determined terrorist organization, should they succeed in procuring a suitable weapon. A relatively small weapon such as a nuclear artillery shell, could result in tremendous disruption and loss of life if detonated at sufficient altitude.

An **ERW** (Enhanced Radiation Weapon), similar in design to a neutron bomb, is a class of low yield tactical thermonuclear (fission-fusion) weapons. Neutron bombs minimize blast and heat to maximize dangerous ionizing radiation and gamma yield which is what causes the E1 component of EMP.

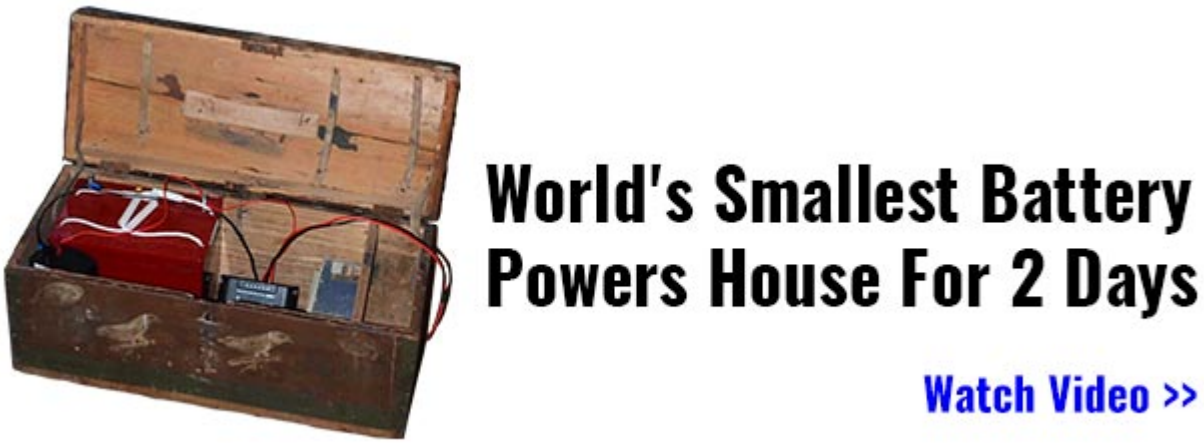
The idea behind the neutron bomb was that it could kill enemy soldiers while minimizing civilian casualties and damage to the infrastructure that sustains them. Although it may sound like a contradiction in terms, the neutron bomb was intended to be a more humane nuclear weapon. While the blast radius of a neutron bomb may be as small as a few hundred meters, the highly lethal ionizing radiation produced can penetrate several feet of soil or the armor of a tank disabling exposed troops within a few minutes and killing them within a couple of days.

ERW’s are more effective at producing HEMP than nuclear weapons designed to destroy cities and military bases. Like neutron bombs, trading blast and heat for higher gamma and neutron yield means that they punch far above their weight class when it comes to create HEMP. Creating an ERW is probably what North Korea’s last test was. Such a weapon, detonated at altitude, could potentially create field strengths far more intense than 50Kv/m.

This is important because that number is used as a standard for shielding against EMP and was derived by analysis of the Starfish Prime nuclear test data from 1962 which is not classified. That test used a regular thermonuclear warhead which was not designed for optimal EMP yield.

High altitude EMP only really began to be understood after that test produced 1000x the EMP of tests at ground level. Since then, military scientists have had many decades to develop ERW weapons and in 2004, Russian generals testified that their ERW designs were “accidentally leaked” to North Korea. Because of the development of ERWs, the shielding protecting many of our critical systems may be insufficient.

No matter what, you have to be prepared, able to help yourself and your family in case of a total blackout! Click the banner below for more!



This article has been written by ***Cache Valley*** *Prepper for*

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Resources:
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