



**NUCLEAR PROLIFERATION
PREVENTION PROJECT**

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**CONTACT: Prof. Alan J. Kuperman
ak@NPPPP.org**

**Army Mobile Nuclear Reactors Will Be Vulnerable to Enemy Missiles, says New Study;
Attack Could Radioactively Contaminate Thousands of Nearby U.S. Troops;
Pro-Nuclear Legislators Have Funded Costly Program Without Pentagon Request or Need**

AUSTIN, TX – The U.S. Army is developing mobile nuclear reactors for electricity on war bases, thanks to \$133 million in Congressional funding that the Pentagon never requested, but the reactors will be vulnerable to enemy missile attacks that could “radioactively contaminate thousands of nearby U.S. troops,” according to a [new study at the University of Texas at Austin](#). Two reactor companies, BWXT and X-Energy, are designing prototypes for an Army test in 2023, according to the study entitled, “Proposed U.S. Army Mobile Nuclear Reactors: Costs and Risks Outweigh Benefits,” authored by Prof. Alan J. Kuperman, coordinator of the Nuclear Proliferation Prevention Project (NPPPP).

The Texas study cites a 2020 missile attack by Iran on American forces at Iraq’s al-Asad base that inflicted traumatic brain injury on more than a hundred U.S. troops, warning that such an attack on an Army reactor could be catastrophic. Iran’s missiles proved ten times more accurate than the Army’s logistics directorate had optimistically assumed in a 2018 report advocating the reactors. The Army’s plan to protect the reactors, by burying and covering them, could backfire by impeding air cooling and thus overheating the fuel and causing a radioactive release, cautions the Texas study. Kuperman also warns that if U.S. troops abandoned a reactor under attack, the enemy would come into possession of several hundred pounds of highly radioactive waste in millions of tiny fuel balls that could be dispersed in radiological terror attacks.

The NPPPP study debunks previous justifications for the mobile reactors. Congress’s rationale was to reduce U.S. casualties from attacks on deliveries of diesel fuel for electricity on war bases. However, Kuperman finds that such casualties peaked at a much lower level than asserted and then dropped virtually to zero more than seven years ago due to logistics innovations. The Texas study also argues that future weapons for air defense such as high-energy lasers and electro-magnetic railguns cannot justify reactors because they would be used so infrequently that the electricity could be provided much less expensively by diesel generators coupled with batteries.

The Army says mobile reactors can provide electricity less expensively than diesel generators, but its claim is based on unrealistic assumptions that a reactor would have low construction costs and then operate an average of 18 hours per day for 40 years, says the Texas study. Kuperman instead utilizes industry cost estimates and a more plausible expectation of operating half the time for 10 years, calculating that nuclear electricity would cost up to 16 times more than the Army had assumed, and seven times more than diesel-generated electricity.

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The Texas study says a mobile reactor would have the smallest economic penalty on a base with at least 5,000 personnel, but notes that due to troop withdrawals from Iraq and Afghanistan the U.S. military currently has no war bases of that size.

The Army envisions air transporting the reactors to war zones, but the NPPF study says this would complicate both U.S. and foreign regulatory approval. Domestic licensing hinges on whether American states, such as Idaho and Alaska, would allow unprecedented flights of highly radioactive spent nuclear fuel over their territory. Deployment to and from war bases could be blocked by any country along the air route that refused overflight.

The Texas study concludes that addressing all of the unresolved questions could take decades, whereas a reactor prototype could be designed and constructed in less than three years, although it would cost hundreds of millions of dollars. Accordingly, Kuperman recommends that the Biden Administration and Congress “suspend the development program until it becomes clearer in future years whether deployment of such a reactor is both feasible and desirable.”

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