

COMMENTARY

North Korea Dreams of Turning Out the Lights

Pyongyang doesn't need a perfect missile. Detonating a nuke above Seoul—or L.A.—would sow chaos.



A satellite photo of Korea illustrates the South's dependence on electricity. PHOTO: NASA

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Conventional wisdom holds that it will be years before North Korea can credibly threaten the United States with a nuclear attack. Kim Jong Un's scientists are still testing only low-yield nuclear weapons, the thinking goes, and have yet to place them on ballistic missiles capable of reaching America's West Coast.

While its technological shortcomings have been well documented, North Korea's desire to provoke a nuclear conflict with the U.S. should not be minimized or ignored. Pyongyang is surely close to getting it right.

For South Korea the danger is more immediate. According to physicist David Albright, the founder and president of the Institute for Science and International Security, the North Koreans have between 13 and 30 nuclear weapons and can build as many as five more every year. If Mr. Kim were to detonate one of these bombs in the atmosphere 40 miles above Seoul, it could inflict catastrophic damage on South Korea's electric power grid, leading to a prolonged blackout that could have deadly consequences.

The United States has 28,500 soldiers, sailors, airmen and Marines in South Korea stationed below the 38th parallel—and more at sea nearby. An electromagnetic pulse attack on South Korea could play havoc with America's ability to mount an effective response to North Korean aggression. One hopes the troops manning the two already-deployed batteries of the Thaad ballistic-missile defense system are prepared for such a scenario (in a concession to China, the newly elected South Korean government suspended this week the deployment of four additional launchers).

In 2001 Congress established a commission to study the danger of an electromagnetic pulse generated by the detonation of a high-altitude nuclear weapon. It concluded that

while there would be no blast effects on the ground, critical electricity-dependent infrastructure could be rendered inoperable. The commission's chairman, William R. Graham, has noted that several Russian generals told the commissioners in 2004 that the designs for a "super EMP nuclear weapon" had been transferred to North Korea.

Pyongyang, the Russian generals reported, was probably only a few years away from developing super EMP capability. According to Peter Vincent Pry, staff director of the congressional EMP commission, a recent North Korean medium-range missile test that was widely reported to have exploded midflight could in fact have been deliberately detonated at an altitude of 40 miles.

Was it a dry run for an EMP attack? Detonation at that altitude of a nuclear warhead with a yield of 10 to 20 kilotons—similar to those tested by North Korea—would produce major EMP effects and inflict catastrophic damage to unhardened electronics across hundreds of miles of surface territory. It is a myth that large yield nuclear weapons of hundreds of kilotons are required to produce such effects.

Although some analysts have dismissed the possibility of a successful North Korean EMP attack—either on South Korea or the United States—several factors could make it a more appealing first-strike strategy for Kim Jong Un's nuclear scientists than a direct, missile-delivered nuclear strike. For one thing, accuracy is not a concern; the North Koreans simply need to get near their target to sow chaos. Nor would they need to worry about developing a reliable re-entry vehicle for their ballistic missiles.

Conventional wisdom aside, a North Korean EMP attack on the U.S. may also not be far-fetched. "North Korea could make an EMP attack against the United States by launching a short-range missile off a freighter or submarine or by lofting a warhead to 30 kilometers burst height by balloon," wrote Mr. Graham earlier this month on the security blog 38 North. "Even a balloon-lofted warhead detonated at 30 kilometers altitude could blackout the Eastern Grid that supports most of the population and generates 75 percent of US electricity. Moreover, an EMP attack could be made by a North Korean satellite." Two North Korean satellites currently orbit the earth on trajectories that take them over the U.S.

This is not mere theory. In 1962 the United States detonated a 1.4-megaton nuclear warhead over the South Pacific, 900 miles southwest of Hawaii. Designated "Starfish Prime," the blast destroyed hundreds of street lights in Honolulu, caused electrical surges on airplanes in the area, and damaged at least six satellites. Only Hawaii's undeveloped electric power-transmission infrastructure prevented a prolonged blackout. It was the era of vacuum-tube electronics. We are living in the digital age.

The U.S. and South Korea should ensure their ballistic-missile defenses are effective and harden their electric power grids against EMP effects as soon as possible. The day of reckoning could come sooner than anyone in either country thinks.

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