

## **FOR IMMEDIATE RELEASE**

### **Resilient Societies Think Tank Finds North Korean Nuclear Tests May Disrupt Trans-Pacific Trade**

Nashua, NH—November 28, 2017—The Foundation for Resilient Societies has authored a paper analyzing potential scenarios for North Korean electromagnetic pulse (EMP) tests using high-altitude hydrogen bomb detonations. The government of North Korea has declared high-altitude EMP-capability to be a “strategic goal” and has also threatened an atmospheric test of a hydrogen bomb. Atmospheric nuclear tests have the potential to cripple the undersea cable networks critical to Trans-Pacific trade among the U.S., China, and other nations.

High-altitude burst EMP can damage repeaters in undersea fiber-optic networks and also damage their above-ground cable landing stations. Submarine fiber optic cable networks carry about 98 percent of global intercontinental communications, critical to more than \$10 trillion dollars in financial transactions per day. China depends on trade to import food and energy. If North Korea tests an EMP-enhanced weapon over certain locations in the Pacific Ocean, damage to undersea cable networks and resulting trade disruption could cause a global economic recession. Depending upon the altitude and location of nuclear EMP tests, satellites used for communications and electric grids are also at risk.

When a nuclear warhead is detonated at high altitude, a series of electromagnetic pulses radiate downward within the line of sight of the blast. These pulses can disable equipment with miniature electronics and long conductors. Electric grid controls and transmission systems are especially vulnerable. X-rays and free electrons caused by high-altitude nuclear tests can also disable satellites. After the 1962 Starfish Prime test of EMP effects by the U.S, numerous satellites failed.

Based on past missile tests, calculated delivery ranges, EMP coverage areas, and geography, Resilient Societies developed five scenarios for North Korean atmospheric tests. Possible sites for EMP tests include the South Pacific Ocean northeast of French Polynesia, Johnson Atoll southwest of Hawaii, and vicinity of the U.S. territory of Guam. Missile trajectories for all three of these EMP test scenarios overfly populated areas. Missile navigation or nuclear device fuzing errors could place the populations of Japan, Guam, and Hawaii at risk. All potential EMP test locations could cause disruption to international communications, whether by undersea cable and/or by satellite.

“North Korea should not be permitted to conduct an atmospheric nuclear test,” said Dr. George H. Baker, a director of Resilient Societies and recognized expert on EMP effects. “The EMP effects on large networks necessary for electric power and international data sharing could have serious worldwide consequences due to the importance of Asia and the Pacific region to the global economy.”

If North Korea does conduct atmospheric nuclear tests, U.S. and allied monitoring of EMP effects will be critical.

For a copy of the Resilient Societies working paper on North Korean nuclear test scenarios, contact Melissa Hancock at [media@resilientsocieties.org](mailto:media@resilientsocieties.org) or 855-688-2430, extension 2.