North Korean Nuclear Weapons Activity

Nuclear Tests


On October 16, 2006, the U.S. Director of National Intelligence confirmed “North Korea conducted an underground nuclear explosion in the vicinity of P’unggye on October 9, 2006. The explosion yield was less than a kiloton.” At such a low yield, the international community labeled the North’s test a failure.


On June 15, 2009, the U.S. Director of National Intelligence stated, “The U.S. Intelligence Community assesses that North Korea probably conducted an underground nuclear explosion in the vicinity of P’unggye on May 25, 2009. The explosion yield was approximately a few kilotons.” Official and unofficial reports vary on estimated yield but it is generally regarded as higher than its 2006 test, but still considered unsuccessful.


On February 12, 2013, the U.S. Director of National Intelligence stated that North Korea probably carried out an underground nuclear explosion with a yield of approximately several kilotons. Some experts speculate that the test involved uranium, rather than plutonium used in the last two tests, but there has been no official confirmation regarding which material was involved in the test. North Korea claimed that the device tested was a miniaturized warhead that could be mounted on a ballistic missile.


On January 6, 2016, North Korea claimed to have detonated a miniaturized hydrogen bomb. Hydrogen bombs, or thermonuclear weapons, derive their extremely high yield from nuclear fusion, the process of combing light elements to make heavier ones.

However, the international community has been unable to confirm the validity of the announcement. Based on the low seismic readings of the test, the bomb’s yield was not estimated to be high enough for a true thermonuclear weapon.


At 9:00am local time on September 9, 2016, the U.S. Geological Survey detected seismic activity consistent with nuclear test explosions. North Korea announced that it had successfully tested a miniaturized nuclear weapon, coinciding with the celebration of the anniversary of the founding of the DPRK. According to a Washington Post report, North Korean officials claim that the test represents significant advancement toward “smaller, lighter” warheads with “higher strike power.” The test was estimated to have a 10 to 20 kiloton yield, the largest North Korea has produced to date. In comparison, the bomb dropped on Hiroshima, Japan during World War II had a 15 kiloton yield.

At noon local time on September 3, 2017, the U.S. Geological Survey recorded an earthquake of 6.3 magnitude near Sungjibaegam, North Korea. According to news reports, North Korea state media claimed that it had successfully tested a hydrogen bomb (H-bomb or thermonuclear weapon). The tremors caused by the explosion were nearly 10 times more powerful than those triggered by North Korea’s 5th nuclear test, indicating a yield of at least 100 kilotons, though the exact yield has not been finalized. This yield would be consistent with either a large fission weapon, or more likely either a boosted weapon or a thermonuclear weapon.