

## Welcome to the H-Bomb Club, North Korea

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After months of anticipation, [it finally happened](#). On Sunday morning, September 3, at precisely noon local time, North Korea detonated its sixth nuclear device ever to test a presumably new thermonuclear bomb design. The explosion generated an earthquake that was felt across the border in China and suggested a total explosive yield on the order of hundreds of kilotons, or ten times greater than the weapon the United States dropped on Hiroshima in August 1945 — and likely similarly an order of magnitude greater than North Korea's fifth nuclear test almost exactly a year ago.

What exactly did North Korea achieve with this test? In its state media, [North Korea claimed](#) the new device was an advanced nuclear bomb design ready for use with its Hwasong-14/KN20 intercontinental-range ballistic missile — the missile it first tested [on July 4](#) this year — which can likely reach parts of, if not most of, the continental United States. If North Korea's new bomb design appears as capable as initial impressions suggest, and its claim of missile-readiness are unexaggerated, North Korea has unquestionably attained what it sees as the capabilities necessary to deter the United States from a military attack against its leadership and territory.

For the doubters, North Korea released a [highly specific technical statement](#) through its state-run Korean Central News Agency meant to signal specific knowledge of thermonuclear bomb design — specifically, what is known as a two-stage Teller-Ulam bomb. The accomplishment, if verified, would be no small feat. Many new nuclear powers struggle to achieve this design capability quickly if at all, including India and Pakistan more than [20 years after their first tests in 1998](#). France took over 8 years, achieving this destructive capability in 1968. North Korea may have gotten there in a little over 10 years — which is quite impressive given the noose around the country and its program.

North Korea claimed it detonated some form of a thermonuclear weapon with its fourth nuclear test in January 2016. But many [experts had doubted North Korea's claim](#), so Pyongyang wanted to make clear that it had crossed that threshold now. To emphasize this achievement, hours before its sixth test, North Korea released images of Kim Jong-un inspecting a peanut-shaped device that resembled known designs for two-stage thermonuclear bombs. These bombs use a compact primary fission explosion to ignite a secondary fusion-fuel explosion (up to megaton range of yields) for a much greater total explosive yield than simpler fission (up to tens of kilotons yield) — or “boosted” fission (up to hundreds of kilotons yield) — bombs. Bombs with yields in the 100-kiloton range, like the U.S. W76, also use a staged thermonuclear design. So North Korea's test yield could be consistent with both boosted fission and staged thermonuclear devices. It is almost certainly beyond simple fission designs.

Did North Korea actually succeed in testing a true staged thermonuclear device on September 3? Experts will pore over seismic data, radionuclide signatures from possible atmospheric venting, and study the images released by North Korea carefully to determine the veracity of its technical claims and whether the test suggests a true staged thermonuclear device or a boosted fission device. But, for strategic deterrence purposes, it does not matter. All that matters is that the explosive yield is large enough to flatten cities and the device is ready for use in ballistic missiles. And given the magnitude of the seismic data, it seems clear North Korea unquestionably demonstrated that ability.

We knew this was coming. North Korea has been telling us for months that its longer range missiles were capable of carrying a [“large-sized, heavy nuclear warhead.”](#) This sixth test may have exactly been for that warhead. We should also expect North Korea to continue refining the operational and technical components of its nuclear arsenal. Last week, [North Korea fired a Hwasong-12](#) intermediate-range

ballistic missile before dawn from a new launch site in Pyongyang to test its ability to retaliate quickly and from surprising locations, using the cloak of night cover to enhance survivability. This was as much an operational test for its units as it was a provocation to overfly Japan. It would not be shocking if North Korea performed an extended range ICBM test over Japan to prove doubters wrong about the state of its re-entry vehicle. In short, expect more tests as Kim consolidates a developmental program into a truly operational one.

Strategically, the capability demonstrated on Sunday dovetails with North Korea's pursuit of a sufficient deterrent against the United States. Long unsatisfied with its ability to conventionally saturate South Korea alone as a deterrent to a United States attack, North Korea pursued nuclear weapons to ensure the Kim dynasty would remain in power indefinitely, immune to the fate that befell Iraq's Saddam Hussein and Libya's Moammar Gadhafi after they made concessions on their nascent nuclear programs.

The device tested Sunday may fill out the nuclear strategy North Korea has been outlining over the years, one known by analysts as "[asymmetric escalation](#)" against a conventional attack or invasion. Unable to defeat allied forces conventionally, North Korea likely plans to use nuclear weapons against regional U.S. and allied bases in South Korea, Japan, and Guam — asymmetrically escalating the conflict to the nuclear level in first use — to degrade America's ability to sustain conventional operations against it.

But how does that deter annihilation by U.S. nuclear retaliation? Enter the ICBM and the "heavy nuclear warhead," which is designed to hold major American cities at risk. With a thermonuclear weapon sitting atop even an inaccurate ICBM, a single warhead — rather than three or five lower yield weapons — is sufficient to level most of a large American city. After North Korean first use of nuclear weapons regionally to stave off an allied invasion, it is this threat of retaliating against an American city with a thermonuclear-tipped ICBM that is North Korea's only hope of surviving and creating an operational pause or cease-fire. That is why, from a deterrence perspective, this sixth test is so important, but also so unsurprising. North Korea's nuclear strategy does not work nearly as well without it.

Politically, North Korea's claimed possession of city-busting nuclear missiles capable of reaching the contiguous United States is largely aimed at driving a wedge between Washington and its allies. The same Cold War-era question that drove U.S. allies in London, Paris, and Bonn to wonder whether the United States would trade New York or Los Angeles for their protection now is relevant in Northeast Asia. Seoul and Tokyo will wonder how long they can take the United States at its word that Kim Jong-un's ability to hold U.S. cities at threat will leave their alliances "ironclad." The day of the test, one could already see the effects of this strategy as President Donald Trump angrily tweeted about South Korean "appeasement" of North Korea. If Kim's aim was to [decouple](#) the United States from its alliance with South Korea, Seoul could be forgiven for thinking it was working.

Where do things go from here with North Korea?

Sunday's test is perhaps the clearest signal that North Korea's interest in voluntary denuclearization is a Western fantasy. Attempting to denuclearize North Korea by force would require a surprise attack by the United States — one that already makes [Pyongyang wary of American B-1B Lancer sorties](#) from Andersen Air Force Base at Guam that may one day be a prelude to such an attack. There is no guarantee that the United States could find and destroy all of Kim's nuclear systems, and it thus leaves the United States and its allies in the region open to unacceptably high conventional and nuclear retaliatory risk. If it wasn't clear before, it should be now: Any war with North Korea will be a nuclear war. Realistically, this is now out of the question.

To make the point clear that sanctions — even the far-reaching measures of [U.N. Security Council Resolution 2371](#), passed last month — are insufficient to rein in its ambition, North Korean state media

noted that “[all components of the H-bomb were homemade](#),” adding that the country was able to produce “as many as it wants.” The claim may or may not be accurate, but sanctions alone certainly haven’t stopped North Korea’s progress to this point. And whether China can or cannot tighten the noose on North Korea is irrelevant so long as allowing a festering North Korean nuclear problem to distract Washington leaves Beijing as the biggest geopolitical winner.

Diplomacy is a third track and the only to have yielded observable limitations and delays on North Korea’s pursuit of long-range ballistic missiles and nuclear weapons. However, the challenges of diplomacy remain considerable, with trust between both sides at abysmal depths and the Trump administration, like its predecessors, disposed toward a strategy privileging punitive sanctions and pressure. Concerns that North Korea may opportunistically defect from any unilateral assurances it may provide in bilateral or multilateral talks continue to persist as well.

The Trump administration may well find solutions it deems satisfactory on this side of the Pacific. It could funnel massive amounts of funding into long-meandering and disappointing ballistic missile defense programs like the [Ground-Based Midcourse Defense \(GMD\) system](#), the only system capable of defending the U.S. homeland against ICBMs. A former director of the U.S. Missile Defense Agency described the probability that this \$40 billion system would successfully intercept a North Korean ICBM as “at least as good as a coin toss” — far from a ringing endorsement. Nevertheless, missile defense appears to be an all-but-assured part of the longer-term strategy pursued by the United States and its allies to manage the North Korean threat.

In the end, however, Washington will have to learn to practice deterrence with North Korea, as it has done with the Soviet Union, Russia, and China. That will require an appreciation for North Korea’s capabilities and accepting that this country, once referred to by Richard Nixon as a “[fourth-rate, pipsqueak power](#),” now deters the United States from invasion and regime change. Indeed, although Pyongyang may have long-term aims to reunify the Korean peninsula on its terms, in the short to medium timeframe it is unlikely to use nuclear weapons at all unless it fears a regime change, invasion, or disarmament attempt.

Reducing the risk of war — nuclear war — will require both sides to set up military-to-military channels to manage risk and, above all, for the United States to stop doubting that North Korea indeed possesses the capabilities it has now dramatically demonstrated. If Kim Jong-un wants us to believe that he has a long-range missile capable of delivering a “large-sized, heavy nuclear warhead” to U.S. cities, let’s not dare him to prove it. He just might.

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