

**The sharp downside of success:
how a third North Korean nuclear test could
change the strategic dynamic in Northeast Asia**

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Speculation about the possibility of a third nuclear test by North Korea continues. In a recent article in the *Bulletin of Atomic Scientists*, Siegfried Hecker (a long-time observer of the North Korean nuclear program from Stanford's Center for International Security and Cooperation) suggested that the North could test within as little as two weeks if it chooses to do so. True, the nature and intentions of North Korea's third dynastic leader, Kim Jong-un, are yet to be fully revealed. Jong-un seems to be setting a different personal style from his father and grandfather, and there are signs of greater interest in economic reform. But is Jong-un different enough that he's willing to change the course of the country's nuclear and missile programs?

After negotiating a food aid deal with the US in February this year, Jong-un attempted to launch a satellite into space in mid-April using a Taepodong-2 missile in what experts on North Korea might describe as a destabilising move typical of the regime. Despite some signs of greater transparency by the regime—media access to the launch site, the announcement of a specific launch window, and acknowledgement of the launch failure—many foreign powers perceived the satellite launch as merely a cover to test-fire a ballistic missile, previously banned by United Nations Security Council (UNSC) sanctions. In the wake of the failed launch, the US cancelled the food-for-denuclearisation agreement. North Korea has long played a double game on its nuclear and missile program, appearing receptive to halting development but continuing the policies and actions that bring it ever closer to a proper arsenal.

Furthermore, the North carried out ballistic missile tests in 2006 and in 2009, before its two nuclear weapon tests. The botched April rocket launch gave rise to fears that it would try to offset that failure by conducting a third nuclear weapon test, and May was an especially nervous month, given the timing of the 2009 nuclear test (25 May). But a few months have now passed and a nuclear test has yet to materialise. So questions remain: will the North Koreans conduct a third test, what impact would a third test have on regional stability, and what could this mean for Australia?

The first two tests were relatively low-key affairs—concerning but not catalytic events in terms of regional security. Still, we shouldn't allow that history to mislead us. The relatively low yields of the first two tests meant that the response from interested parties was more moderate than what it could have been after a more successful exercise. Considering that Pyongyang has

had an opportunity to resolve technical problems and may now be in a position to test a uranium bomb (which is more easily designed than a plutonium weapon), the response from key stakeholders to any new bout of testing is likely to be more severe. In short, a third test might well have a far greater impact on regional security and stability than either of the first two tests—and undesirable ripple effects for Australia.

North Korea's nuclear weapon and missile development timeline

2006—4–5 July: Launches seven ballistic missiles, including its longest range missile, the Taepodong-2, on America's Independence Day.

2006—9 October: Conducts its first underground nuclear weapon test, using plutonium. The bomb was detonated approximately 200 metres underground in the northeast of the country. The yield was estimated at 0.9 kilotons.

2009—5 April: Test fires a modified version of the Taepodong-2, the three-stage Unha-2 rocket.

2009—25 May: Conducts its second nuclear test, with an explosive yield of 4.6 kilotons. This test takes place in close proximity to the first test, in the northeast.

2009—25–29 May: Fires several short-range surface-to-air missiles.

2009—2–4 July: Launches several short-range missiles into the Sea of Japan.

2012—12 April: Attempts to launch a satellite into orbit using a Taepodong-2 missile. The launch is a failure and the country is condemned for testing a missile in contradiction of sanctions.

Consequences of the first test

The October 2006 North Korean nuclear test generated a set of tensions throughout Northeast Asia disproportionate to its size. The test had an estimated yield of only 0.9 kilotons, much smaller than the typical first nuclear weapon tests of other states, which usually range between 10 and 20 kilotons. While the North clearly possessed enough plutonium to manufacture a nuclear bomb, the low yield of the explosion demonstrated that it hadn't yet perfected an implosion design that would maximise the yield of the device. While the North declared the test a success, reports that Pyongyang advised Beijing that it was expecting a 4 kiloton yield indicate that the test was probably at the disappointingly low end of expectations.

Despite the relatively small yield, the reaction of the international community was swift and stern. The 2006 test attracted condemnation from the UNSC, which acted quickly to pass sanctions against Kim Jong-il's regime. Resolution 1718 banned trade in heavy weapons and luxury items to North Korea and 'called upon' countries to inspect cargo ships departing from and bound for the country and to seize any weapons caches found. Resolution 1718 also called upon North Korea to abandon its nuclear weapons program, suspend its ballistic missile program, and rejoin the Nuclear Non-Proliferation Treaty (NPT).

In direct response to the test, South Korean President Roh Moo-hyun announced a reconsideration of Seoul's engagement policy. Ultimately, however, government and public support for a policy of continued engagement with North Korea remained strong. In Tokyo, the Japanese Foreign Minister and the Chairman of the Policy Research Council of the Japanese Government initiated a debate on the merits of acquiring an indigenous nuclear deterrent. The proposal was rebuffed by Prime Minister Shinzo Abe, but the suggestion was noticed by South Korea, China and the US. The heads of state of all three countries voiced their concerns over the

potential for North Korea's nuclear weapon program to spark an arms race in Northeast Asia. Washington moved quickly to reassure Seoul and Tokyo that they were still protected under the US nuclear umbrella.

As China prefers a stable North Korea and a reduced American presence both on and around the Korean Peninsula, Beijing was less than pleased by the 2006 nuclear weapon test. But while Beijing used stern language to convey its displeasure it also tried to temper the more severe reactions of the US and South Korea by blocking harsher UNSC sanctions and sending a diplomatic envoy to negotiate with Kim Jong-il. Apparently, although China was angered by the test it still sought to deflect pressure from the regime and maintain relations with Kim Jong-il in order to support its own political and strategic objectives.

The longer term impact of the 2006 nuclear test was to raise anxiety and threat perceptions in South Korea and Japan, further commit the US militarily and politically to the region, and create a more entrenched dilemma for China, which has competing interests in punishing the North and ensuring that the regime remains stable and in control. However, while the test raised the stakes for all parties, it didn't fundamentally change the security dynamic in the region. In the years following the test, alert levels in South Korea and Japan stabilised, the US made sporadic progress negotiating with the regime, and China maintained its regional balancing role.

Impact of the second test

In May 2009, North Korea conducted a second test, this time with an estimated yield of 4.6 kilotons.¹ While five times bigger than the first, the yield was still relatively small.

Two and a half weeks after the test, the UNSC announced the adoption of Resolution 1874, which banned North Korean two-way weapons trade and, importantly, provided a legal basis for states to interdict North Korean ships and exercise 'search and seizure' powers. More than 'call upon', Resolution 1874 'demanded' that the North refrain from conducting further nuclear and missile tests and return to the NPT framework.

As well as attracting punitive action, the test re-elevated tensions in Northeast Asia and reawakened debates in South Korea and Japan about the need for enhanced military capabilities. The *Chosun Ilbo*, a conservative South Korean newspaper, argued that advances in North Korean nuclear and missile technology required that the South no longer be limited by international treaties, such as the NPT or the Missile Technology Control Regime, and develop its own 'deterrent'. Earlier in 2009, in response to the test launch of a Taepodong-2 by North Korea, the South Korean Prime Minister and Foreign Minister implied that they supported an extension to the permissible range of South Korean missiles (negotiations are still underway between Seoul and Washington to extend the current 300 kilometre limit). In addition to generating suggestions for a South Korean deterrent, the test convinced Seoul to reconsider its stance on the US-led Proliferation Security Initiative and to participate fully in activities to stem the trade in weapons of mass destruction and missile-related technology. This declaration was made despite claims from the North that it would consider such a move an act of war.

Stronger conservative support for increased military capabilities also emerged in Japan. In Tokyo, debate centred on whether to incorporate a provision in the national defence guidelines for pre-emptive strikes against aggressors. The US again moved to reassure Seoul and Tokyo that they were protected under the US nuclear umbrella and therefore, there was no impetus for either country to develop its own nuclear deterrent.

China's reaction to the second test was harsher than its response to the first: it 'strongly demanded' that the North commit to denuclearisation (uncharacteristically stern language for Beijing), cancelled previously scheduled official visits to Pyongyang, and acceded to the tougher trade sanctions outlined in Resolution 1874. Still, while China was clearly angered by the test, its own political and strategic interests once again outweighed its frustration. It again blocked even tougher sanctions proposed by the US and South Korea.

Since the 2009 test, Chinese – North Korean bilateral relations have normalised and, by some indications, substantially improved. China continues to be the North's largest trading partner (total trade increased by 62% between 2010 and 2011, from US\$3.4 billion to US\$5.6 billion²). There are reports that China has warned North Korea against conducting a third nuclear test, and bilateral relations are likely to remain constructive—until another test occurs—even in the context of minor spats in territorial waters.

The 2009 nuclear test, like the 2006 one, damaged regional stability but wasn't a game changer. True, the second test prompted a stronger response from the UNSC and fuelled conservative arguments in South Korea and Japan for additional military capabilities, but stronger sanctions have made only a limited impact on North Korea. While debates in Japan and South Korea about defence capabilities have continued, US security guarantees have thus far satisfied both countries enough to prevent conservative arguments from gaining traction. The 2009 test also soured relations between Beijing and Pyongyang, but only in the short term. Because it produced another relatively small explosion, the test didn't alarm interested parties to the level required to fundamentally change the strategic dynamic of the region.

Impact of a third test

But all that could change with a successful third test. A third test—several years after the country began testing nuclear devices and perhaps using highly enriched uranium as the fissile material—threatens to produce a significantly larger yield that could potentially unhinge the strategic dynamic in Northeast Asia. It would place new stresses on the US alliance arrangements with South Korea and Japan, reawaken the debates in those countries about the forms of extended deterrence that best suit their needs, and—in the worst case—tip other regional states towards nuclear proliferation.

The strategic consequences of a third test would depend largely on the size of the explosion. Should it produce another relatively low yield, the reactions of key stakeholders will be similar to their reactions to the first two tests. Those responses are unlikely to significantly alter the strategic composition of the region. Tensions have flared in the past, but relations have gradually stabilised as concerned parties deem it necessary to pursue other issues related to their national interests. A third test would undoubtedly raise tensions, but another failure would also indicate to the UNSC and Six Party Talk members that they have more time to negotiate with the North as it struggles with persistent design and manufacturing problems.

A successful test, on the other hand, would have much graver implications. Having encountered problems with plutonium bombs in the past and possessing a functioning uranium enrichment facility, the North may turn to highly enriched uranium for its next nuclear explosion. Highly enriched uranium can be used in a gun-design bomb, in which one block of uranium is fired into another to produce critical mass. It's a much simpler process than the implosion design required in a plutonium bomb. If the North Koreans think they're having problems with the implosion design, they might be looking for an easier path to a working nuclear device.

A successful test of either a uranium or a plutonium device with a yield of between 12 and 20 kilotons would force the international community to acknowledge North Korea as a nuclear state and give South Korea and Japan more to fear from a hostile North. A real North Korean nuclear arsenal might still be distant, but a test of that size would be a powerful driver for a new set of strategic relationships in Northeast Asia.

Likely reactions of South Korea and Japan

A successful third test would prompt the Lee Myung-bak government in South Korea to reach out to the US for further security assurances. Japan would feel similarly threatened and would also be likely to approach the US for additional security guarantees. Either or both might blame Beijing for not taking a stronger role in reining in North Korean ambitions at an earlier point. Either or both might pressure the US into making a stronger commitment to extended assurance in Northeast Asia. Washington might even find itself under pressure to deploy theatre or tactical nuclear weapons in—or close to—those countries. Indeed, a successful North Korean test could easily initiate a set of reactions that would make the Northeast Asian security environment more complicated.

The whole issue of US extended deterrence could quickly crystallise as a key alliance test within the region. Small deployments of US nuclear weapons in South Korea and Japan may actually carry benefits for the stability of the region, making those countries feel more secure from a nuclear-armed North Korea. If the US refused to forward-deploy nuclear weapons to the region or enhance conventional deterrence measures, some informed commentators believe there's a possibility—small but real—that South Korea and Japan would seek to acquire their own nuclear warheads. Both countries have the technical knowledge and resources necessary to operate programs of that type. Should those two status-quo powers leave the NPT framework and develop their own nuclear weapons, the consequences could be dire. It would signal the breakdown of US extended nuclear deterrence in Northeast Asia, and that might generate a set of ripples to other regions—including our own.

A period of transition

If a successful third North Korean nuclear test does occur in the near future, it would come at a difficult time for key players, thereby reducing the likelihood of a measured and coordinated response. The US and South Korea will conduct presidential elections in November and December this year, respectively, China is making a once-in-a-decade political transition, and there's continuing political uncertainty in Japan.

The US is also struggling with the residual impacts of the global financial crisis, scheduled cuts to its defence spending and a substantial budget deficit. Furthermore, after long and costly military engagements in Iraq and Afghanistan, Washington might be reluctant to become entangled in new security dilemmas in Northeast Asia. Strengthening US extended nuclear deterrence in this region is likely to be politically contentious, especially for the Obama administration, which has flagged so prominently its support for lower weapons numbers and a more limited strategic role for nuclear weapons. Moreover, domestic priorities currently top the political agenda in Washington and are likely to make it more difficult to develop an effective strategy for dealing with an adventurous North Korea.

Implications for Australia

Kim Jong-un is still a young man. If he can hold the family and his country together, he could find himself at the helm of North Korea for some decades. In recent months the new leader has endeavoured to present an open, smiling face to the world, but he must know that he holds few aces. So it's unlikely that he wants to go through the next decades without some form of nuclear weapon program to bolster his position at critical moments.

Since the nuclear program still needs further testing, Kim Jong-un is likely to authorise a third test, and perhaps eventually fourth, fifth, and sixth tests. We have no good data on when a third test might occur, but the observation made by the Stanford academics—that he could test in as little as two weeks—should be a salutary warning for Australian policymakers.

A successful third test is a distinct possibility. The yield of the second test was five times greater than the yield of the first. If the yield of the third test is only three times greater than the second, we'd still be looking at a test of almost 15 kilotons. After a test of that size, it's going to be harder for critics to claim that North Korea isn't yet a real nuclear power—something the US has always stressed, even after the first two tests. True, the North wouldn't have a fully capable nuclear arsenal, but other countries would increasingly begin to behave as if it did, and that would open a can of worms both in Northeast Asian security and in relation to the NPT.

If the issue of US extended deterrence comes under sharper question in Northeast Asia, US alliances across the broader Asia-Pacific might be shaken. And the consequences wouldn't just be strategic. Japan and South Korea rank among Australia's closest economic and security partners. We sell substantial quantities of uranium to both, and that trade would be jeopardised if a nuclear arms race broke out in Northeast Asia. Even if such a worst-case scenario could be avoided, we'd be looking at a future Asian strategic environment in which Japan and South Korea had one more reason to focus their efforts close to home, and that would scarcely be of benefit to the broader regional order.

What, if anything, can Australia do? Frankly, we can do almost nothing to shape North Korean calculations about the wisdom of a third test. But we should be talking to the US, Japan and South Korea about what a successful third test would mean for US extended deterrence in Asia. The choices that Japan and South Korea might make about their own strategic futures are hugely important for us because they and we are the three closest US allies in the region. Their choices couldn't avoid affecting our own view of our alliance relationship with the US, as well as the bilateral strategic relationships we have with Tokyo and Seoul. And US willingness to strengthen—perhaps even redesign—its extended assurance packages in Northeast Asia would have direct ramifications for us.

In short, a successful North Korean third test would bring to the fore a slew of big strategic questions about Asia's future, and we'd want to be involved in discussions about how those questions are to be answered.

Notes

- 1 JR Murphy, BC Kohl, JL Stevens, TJ Bennet, and HG Israelsson (2010), 'Exploitation of the IMS and other data for a compressive advanced analysis of the North Korean nuclear test', *2010 Monitoring research review: ground-based nuclear explosion monitoring technology*, Science Applications International Corporation, 2010, p. 456.
- 2 Korean Institute for National Unification, *North Korea's growing trade dependency on China: mixed strategic implications*, 15 June 2012.

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