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# Contending with a Nuclear-Armed North Korea

By HENRY SOKOLSKI



AP/Wide World Photo (Kim Kyung-hoon)

from its nuclear program, preventing its action from encouraging proliferation by other states, and urging its regime to disarm voluntarily. A review of the North Korean weapons program and nonproliferation violations, how its nuclear capabilities might increase, and the risks of cutting a new wide-ranging nuclear deal can suggest what Washington must do to neutralize the severity of this threat.

## Let's Make a Deal

Nuclear activity by North Korea dates back to the 1960s. But most analysts believe that its weapons program began in earnest in the mid-1970s, after America caught South Korea trying to build a nuclear weapon. Washington persuaded Seoul to end its effort and calmed fears over the prospect of withdrawing U.S. troops. Pyongyang's nuclear weapons effort was not discovered as quickly. It was not until the early 1980s that satellites detected construction of a military production reactor in Yongbyon.

That discovery prompted a flurry of diplomatic activity. Washington consulted Moscow; Moscow consulted Pyongyang; and finally the first nonproliferation deal was struck in 1985. The North Koreans signed the Nuclear Nonproliferation Treaty (NPT), prohibiting the acquisition of nuclear weapons and requiring International Atomic Energy Agency (IAEA) inspections. Russia, in exchange, offered to sell North Korea light-water power reactors. It took only a year and a half

**S**ince North Korea moved to resume plutonium production, admitted to having a uranium bomb program, and declared its right to possess nuclear weaponry, the United States has faced three issues in dealing with Pyongyang: limiting the instability that may result

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Henry Sokolski is the executive director of the Nonproliferation Policy Education Center and author of *Best of Intentions: America's Campaign Against Strategic Weapons Proliferation*.

Constructing light-water reactor, North Korea.



AP/Wide World Photo (Ahn Young-joon)

for the deal to be circumvented. Instead of allowing inspections to start 18 months after signing, as required under the treaty, Pyongyang took ad-

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vantage of the miscommunications and delayed them for another five years. Meanwhile, the military production reactor was completed and activated in early 1986—again without permitting IAEA inspections.

In a belated effort to address these transgressions, the United States and its allies persuaded North Korea in late 1991 to sign a joint denuclearization declaration with the South. It prohibited either nation from building uranium enrichment or plutonium chemical separation plants. America removed its tactical nuclear weapons from the peninsula to help seal the deal. But this accord fared no better than others. As is now known, Pyongyang began operating a chemical reprocessing plant at Yongbyon before the ink was dry. When North Korea allowed the inspectors access in 1992, it was caught lying about the amount of weapons grade material that had been

produced. Finally, in 1993, with enough separated plutonium on hand for one bomb, according to CIA estimates, in the form of a nuclear weapon—Pyongyang blocked further inspections and announced it was withdrawing from the Nuclear Nonproliferation Treaty.

At this juncture, the United States proposed the Agreed Framework, its fourth nuclear deal. To avoid cheating—and to extend international adherence to the Nuclear Nonproliferation Treaty at an upcoming 25-year review—the Clinton administration was solicitous. Acceding to a demand by Pyongyang for two modern reactors, the President promised in late 1994 to provide nuclear energy and annual heavy fuel oil shipments equivalent to ten times the amount of power that North Korea might have produced had all reactors under construction been completed. In exchange, Pyongyang agreed to freeze work at plutonium producing facilities and comply with NPT obligations when the promised U.S.-designed reactors were half complete.

Despite the terms, Pyongyang chose not to comply. Within 24 months, American intelligence determined that North Korea had built one or possibly two nuclear weapons. This fact was known to the administration, which nevertheless insisted that the deal eliminated the threat.

During 1997 and 1998, however, intelligence sources indicated that Pyongyang was testing high-explosive implosion devices and working on covert nuclear sites. Hectored by Congress and leaks, the administration cut another deal with North Korea. After over a year of consultations and the promise of some half a million tons of food aid, Clinton sent experts to a suspect nuclear site. In the interim, however, the press reported that satellite photographs documented equipment being removed from the facility. When the site was finally inspected, nothing was found.

One of 12 sites the intelligence community failed to convince the White House to have opened for inspection by Pyongyang was Mount Chun Ma, which a defector to China



Source: U.S. Department of Defense, *Proliferation: Threat and Response* (Washington: Office of the Secretary of Defense, January 2001), p. 23.

alleged was processing uranium. Finally, in March 1999, the intelligence community reported that the North Koreans were developing a covert uranium enrichment program, probably with help from Pakistan.

Several months later Congress acted again, requiring certification that Pyongyang was not secretly enriching uranium before America provided more fuel oil. Citing a lack of clear evidence, Clinton requested a waiver. That drew congressional protest, but construction of the two promised reactors—which could each produce enough weapons-grade plutonium in their first year of operation for over 50 weapons—continued, as did fuel shipments. Undeterred, the White House considered a possible missile deal with Pyongyang and even a Presidential visit.

With the arrival of the Bush administration, dealmaking seemed to be at an end. Promoters of the Agreed Framework soon sensed that the White House lacked a clear alternative to bribery. Was the continued stifling of IAEA inspections by Pyongyang a violation of the agreement? The engagement faction said no, while critics of the Clinton policy said yes. In the end, nothing was decided.

The unexpected occurred in December 2001 when an intelligence report revealed that one or two nuclear weapons had been produced by North Korea in the mid-1990s. Buried in a document submitted to Congress on missile development, this finding

turned attention to a disturbing issue: assuming that Pyongyang had weapons and was hiding them in violation of the deal made in 1994, could it be conducting a covert program? The response was that North Korea may have a program but, since a national intelligence estimate had not been requested, there was no definitive answer. Supporters of the Agreed Framework knew the truth but feared that it would end the accord. But when North Korea was named as a member of the Axis of Evil, supporters went on the defensive. Following internal debate, critics prevailed and the intelligence community was formally asked for an estimate. When evidence was produced, Pyongyang made an angry admission to cheating.

### Reassessing the Threat

Most backers of the Agreed Framework insist that the United States continue to support that agreement. They are anxious about undermining the freeze on declared plutonium production facilities. Without this restraint, they argue that Pyongyang might make fifty or more weapons per year. Given the admission by North Korea that it already has plutonium weapons and is working on uranium weapons, critics of the accord have questioned the importance of reinstating the freeze. Two important details that emerged from the CIA after North Korea's nuclear confession suggest that this assessment is wrong, at least for the next five years.

U.S. and Asian intelligence agencies suspect that Pyongyang has already built between one and five plutonium weapons. Without the plutonium freeze, North Korea could make perhaps five more from the spent fuel on hand and also produce an additional weapon each year (estimates assume five kilograms of plutonium per weapon). Only if Pyongyang completed two other reactors—50- and 200-megawatt plants—could it produce substantially more plutonium, possibly more than required for fifty weapons each year (assuming reactors operated at near-capacity), according to the Central Intelligence Agency. Operated at 70 percent of capacity for 300 days each year, plants could produce enough plutonium for about 35



the extensive range arcs of the most advanced missiles, constitute an arsenal that will force the United States and its allies to defend not one or five, but scores of targets.

The other difficulty with relying on a continued plutonium freeze to arrest the North Korean nuclear threat is that it does nothing to address the nuclear threat posed by Pyongyang's uranium enrichment program. In fact, the North Korean uranium enrichment program by itself could produce as many as 36 weapons by 2009 (figure 2). Adding the one to five weapons North Korea may already have, the total is between 37 and 41 weapons. The total number of nuclear weapons it could produce without a plutonium freeze, on the other hand, could be as high as 101 weapons. In either case, the number is high.

weapons. Finally, various experts caution that it would take five or six years to bring these plants on line.

Besides relatively high estimates for 2009, the projections are striking in terms of how long-fused and relatively small the breakout for plutonium production would be (see figure 1 below).

Only ten weapons separate the number of plutonium weapons that analysts believe the North has today and what it may acquire without a freeze by 2008. On the other hand, the number that it already possesses—one to five—makes Pyongyang's efforts to make more seem relatively unimportant. Just the one to five weapons it currently has, when combined with

### Facing the Facts

Some backers of the Agreed Framework fully appreciate this point. They hold that Washington must go beyond supporting the plutonium moratorium and strike a new agreement obligating Pyongyang to freeze or dismantle its uranium program. Can such a deal be made without undue risks? Three considerations suggest that it would not succeed.

Figure 1. Projected Number of Plutonium Weapons

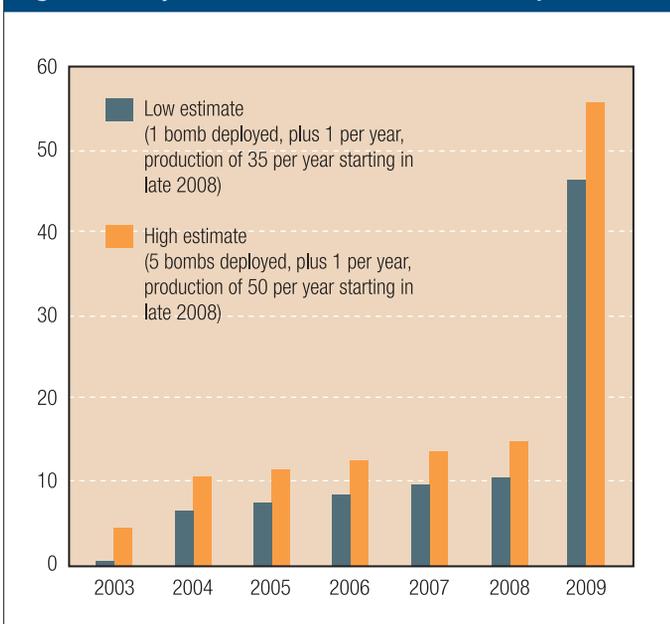
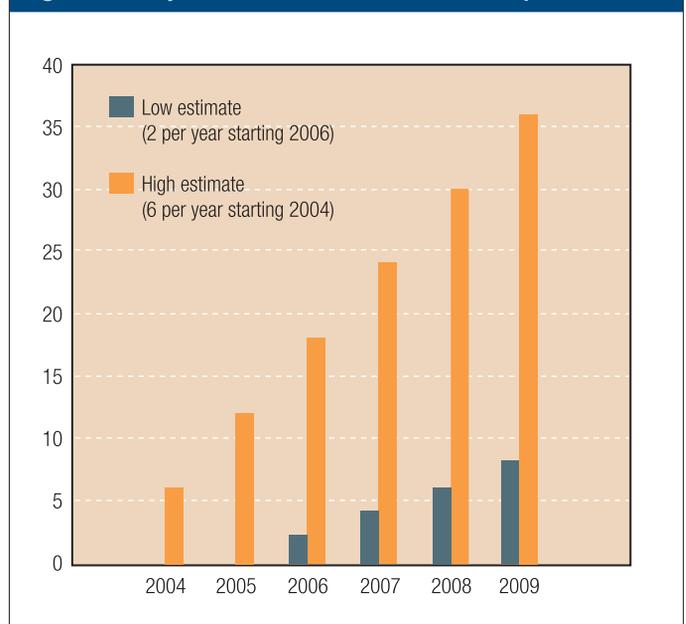


Figure 2. Projected Number of Uranium Weapons



First, there are difficulties in verifying a uranium freeze or dismantlement. Unlike declared plutonium production facilities, whose location is known and whose operation can be detected by satellite, much of the enrichment program is hidden underground. Compounding this problem is a dearth of baseline data on North Korean nuclear activities. International inspectors roamed Iraq in the 1990s and visited both declared and undeclared sites. By contrast, IAEA inspectors have conducted only one routine inspection of declared facilities—ten years ago. Finally, the need to centralize uranium production with centrifuge enrichment technology at one

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site is far less than for plutonium. Instead of running 3,000 centrifuges at one site to produce enough uranium annually for several weapons, batches of centrifuges totaling 3,000 machines could be hidden in several of over 8,000 caves. Checking the uranium program against a list or manifest is thus impossible. The United States is now in the snoop and spy mode and can neither trust nor verify.

Second, there are repeated violations by Pyongyang of nuclear nonproliferation pledges as well as its latest blatant compromise of the Nuclear Nonproliferation Treaty. If Washington tries to resolve these transgressions by striking another bargain, it is difficult to see any accord as anything but an act of weakness. North Korea could be expected to demand more tribute for another freeze or partial dismantlement and then cheat. Meanwhile, political factions in South Korea who oppose U.S. troops in their country could use such a deal as evidence that the North Korean military threat has declined and no longer requires an American presence.

Japan might follow the example of South Korea by seeking U.S. force reductions. In turn, this development might be misread by China and encourage more vigorous action toward Taiwan or



be perceived by North Korea as a signal to push its vision of confederation on the South, either of which could prompt military tension or possibly war. Conversely, the Japanese might react not by asking Americans to leave but by choosing to remilitarize. This could entail going nuclear, and not with only one or two weapons, but given its larger and growing stockpiles of separated plutonium, with hundreds or even thousands. China has thus far held back from weaponizing its surplus stockpile of nuclear material but could build 1,000–2,000 weapons. In turn,

these events could force the United States and Russia to reconsider their announced strategic arms reductions.

Finally, there is the possible impact that such events could have on NPT member states that have tried to develop nuclear weapons or may be interested in doing so. For such nations—Algeria, Egypt, Iran, Libya, South Korea, Syria, Taiwan, Turkey, and Saudi Arabia—negotiating any deal would suggest that cheating pays and repeated cheating pays impressively.

Despite having recently resumed missile testing and plutonium production, North Korea may still be constrained by its neighbors. One major

restraint is the likely reaction of neighboring countries. Russia and China might favor reduced U.S. influence in Asia, but neither is interested in seeing North Korea provoke Japan to militarize or encouraging South Korea and Japan to strengthen security ties with America. That is why Moscow and Beijing went to great lengths through high-level visits to Pyongyang in 1998 and 2000 to keep Kim Jong Il from resuming missile tests over the Sea of Japan.

Moreover, both Russian and Chinese leverage over North Korea is substantial and likely to grow. Moscow will soon be selling military equipment to both Koreas. The manner in which this trade is conducted has special importance to Pyongyang. Beijing must deal meanwhile with a new set of refugee issues. These matters could have a grave impact on the survivability of the North. China, which supplies nearly all the fuel and much of the food to North Korea, has an increasing need to please government-supported investors in the South.

Finally, North Korea cannot build up strategic military capabilities without having negative effects on its prospects of securing substantial financial help from Europe, Japan, and international lending institutions. Locally, the harm to financial aid from Japan and South Korea would be more direct. It would not only jeopardize talks with Tokyo on payment of World War II reparations (worth as much as \$10 billion), but also risk both critical private investment and continued illicit currency transactions from Japan and South Korea.

### The Way Ahead

North Korea might be leveraged to keep it from substantially exceeding its current extent of nuclear and missile activity. As long as Russia and China think that closer American cooperation with Japan and South Korea (including missile defense) is a likely response to nuclear misbehavior by Pyongyang, both are likely to lean on North Korea to restrain itself.

Accordingly, Washington and Seoul must increase the credibility of the declared strategy of deterring aggression by threatening deep conventional counterstrikes. Pyongyang currently seems to believe that Americans and South Koreans cannot execute the strategy. In fact, most forces in the North are deployed within 100 miles of the demilitarized zone rather than spread out to absorb deep conventional

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operations. One efficient way of increasing the plausibility of U.S. defense planning might be wargaming (perhaps with Chinese and Russians). Efforts to strengthen defenses against North Korea, including training, research, and acquisition, should also be encouraged. This could also assure interest by both Moscow and Beijing in curbing Pyongyang and may encourage a shift in North Korean resources from nuclear to conventional forces.

The United States and its allies must also back the International Atomic Energy Agency and the Nuclear Nonproliferation Treaty. The IAEA board of governors resolved in November 2002 to call on Pyongyang to provide relevant information on its uranium enrichment program, open facilities to inspection, and give up nuclear weapons programs in a verifiable manner. The resolution requires North Korea to act before the next IAEA meeting. The initial response by Pyongyang was rejection of the resolution as one-sided and a stated intent to resume operation of its plutonium producing reactors.

Assuming that North Korea continues to ignore the demands to give up its nuclear weapons programs, the United States and its allies will have to hedge against another risk—the transfer of nuclear technology or material to other parties. Washington is seeking to disarm Iraq, a nation that has violated pledges not to acquire weapons of mass destruction. And it has security treaties with Seoul and Tokyo to deter nuclear violators. Now it must work

with the United Nations, the European Union, Japan, South Korea, and others to interdict trafficking in weapons of mass destruction.

The United States and other nations must leverage North Korea diplomatically. Those that have provided energy assistance under the Agreed Framework and recognized Pyongyang should announce their intent to suspend or cease recognition if the Koreans fail to heed IAEA demands. They should make it clear that unless the North complies, the agency must report to the Security Council that it is in violation of NPT

obligations and that a series of increasingly harsh economic sanctions will result. These steps alone may not force compliance, but will exact a price for refusal and help deter others by demonstrating that IAEA and NPT violations are taken seriously.

Finally, to assure lasting nuclear restraint, the current hostile leadership in North Korea needs to give way to more liberal self-rule. Certainly, the instances when countries gave up nuclear weapons programs (including Argentina, South Africa, Ukraine, and Brazil) were occasioned by a political transition to a more liberal form of government.

Here, a good place for the United States and its allies to start would be spotlighting human rights abuses in North Korea and encouraging the free movement of its citizens to China, a state that has forcibly repatriated thousands of people back to the North in contravention of international human rights agreements. The United States and its allies should assure Beijing that refugees fleeing to China will be absorbed by other nations. In any case, making sure that the stories of these refugees are publicized is critical in ensuring that the contradictions and impracticalities of the regime in Pyongyang are brought fully into play—to produce either reform or an eventual liberating collapse. **JFQ**