

The North Korean Nuclear Problem: When Will It End?

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The history of the North Korean nuclear issue was reviewed to give us a better understanding of the long process that culminated in the October 1994 agreement between the U.S. and North Korea. This agreement represents the third time that the U.S. believed the nuclear problem to be “solved;” experience indicates that it would be premature to conclude that it will be the last. Early indications of North Korean good faith may be forthcoming in the next six months, but we will have to wait several years before knowing whether North Korea will take the most important and irreversible steps away from its nuclear weapons program.

The North Korean nuclear program has a longer history than many people realize, beginning with the training of scientists and engineers in the Soviet Union in the late 1950s, and the transfer of a Soviet research reactor in the late 1960s. In the early 1980s the program took an alarming turn, when North Korea began building an indigenous nuclear reactor of a size and design that were ideally suited to produce plutonium for nuclear weapons, along with a reprocessing plant at the same site. The United States asked the Soviet Union to pressure North Korea to sign the Non-Proliferation Treaty (NPT), which it did in 1985, leading the U.S. to conclude that the nuclear problem had been “solved.”

Alas, it was not to be so simple: North Korea refused to sign the safeguards agreement required by the Treaty that would allow the International Atomic Energy Agency (IAEA) to inspect the nuclear facilities and verify that plutonium was not being diverted for weapons purposes. Meanwhile, the reactor began operating. By 1989, the reactor was producing each year an amount of plutonium sufficient to build at least one nuclear weapon.

In light of its failure to contain the nuclear program, in 1991 the Bush administration decided to provide three major incentives to persuade North Korea to comply with its NPT obligations. The U.S. withdrew all nuclear weapons from Korea, canceled the 1992 Team Spirit military exercise, and held the first high-level political meeting with North Korea since the Korean War. In return, North Korea signed the safeguards agreement, as well as a denuclearization accord with South Korea banning the possession of enrichment or reprocessing facilities and provided for a separate inspection regime. Thus was the North Korean nuclear problem solved for the second time.

Once again, however, problems emerged. Follow-up talks between North and South Korea failed over the issue of inspections. More importantly, initial “ad-hoc” inspections by the IAEA revealed that North Korea had not told the truth about its inventory of nuclear materials, as required by the safeguards agreement. North Korea claimed that it had produced only a tiny amount of plutonium, but samples taken by the IAEA at the facilities did not match the plutonium that was shown to the agency. In addition, the U.S. had detected, and notified the IAEA about, a waste storage facility near the reprocessing plant that may have been used to store wastes from undeclared plutonium production.

The new Clinton administration initially took a confrontational approach. In February 1993, the IAEA’s Board of Governors, with full U.S. support, demanded a “special” inspection of the waste site—the first time such a demand had been made of any country. The U.S. also decided to

hold the Team Spirit '93 exercise. (The Bush administration had decided that the cancellation of future Team Spirit exercises and the holding of additional political meetings would depend on continuing progress on the nuclear issue.) In March, North Korea responded by announcing its intention to withdraw from the Treaty.

At that point, the U.S. could have responded as it had done with past nonproliferation failures (India, Pakistan, South Africa): a principled stand in favor of full NPT compliance, combined with low-level, unilateral political and economic sanctions. But the administration judged that the North Korean situation was different for several reasons. The U.S. had extended security guarantees to South Korea and Japan, and North Korea might use or threaten to use nuclear weapons against either country in a new Korean war. North Korea's possession of nuclear weapons could lead South Korea and Japan to develop nuclear weapons, thus destroying the security balance in the region and dealing a mortal blow to the global nonproliferation regime. Finally, North Korea might sell nuclear weapons or plutonium to other unsavory states, as they have done with ballistic missiles.

Having decided that a nuclear-armed North Korea was intolerable, the U.S. had three options to achieve its objective: (1) implement UN Security Council sanctions; (2) destroy North Korea's nuclear facilities; or (3) offer North Korea additional incentives for complying with its obligations. The first option would not have worked without full Chinese support, which was not forthcoming; even with Chinese enforcement, the North Korean economy is so isolated that the nuclear program probably would have continued almost unimpeded. The second option would have started the second Korean War, which nobody—especially South Korea, Japan, and China—wanted. The only realistic option was negotiation—assuming, of course, that the North wanted a negotiated resolution.

The U.S. goal in the negotiations, which began in June 1993, was full North Korean membership in the NPT, full IAEA inspections, and full implementation of the North-South denuclearization accord, which required the dismantling of the reprocessing plant; later, the U.S. expanded its goals to include no refueling of the existing reactor and completion of the other two, much larger, reactors under construction. What North Korea really wanted was uncertain; standard guesses included normal diplomatic relations, lifting of existing U.S. economic sanctions, a Korean nuclear-free-zone, including a formal non-use pledge by the United States, and help in converting to light-water reactors (LWRs).

Although there was broad agreement within the U.S. government and among key allies on the outline of a deal, the negotiations were repeatedly held up by North Korean brinkmanship tactics, particularly in connection with IAEA inspections and talks with South Korea. In fact, the deal nearly went down the drain early in 1994, when North Korea unloaded the reactor without allowing the IAEA to tag and seal the fuel, thereby destroying information about how much plutonium North Korea had produced. As you know, Jimmy Carter then stepped in and rescued the process by getting the North Koreans to agree to a complete freeze on their program—including reprocessing and operation and construction of indigenous reactors, which is permitted by the NPT.

Regarding the substance of the negotiations, the main disagreement was over timing: North Korea wanted incentives—in particular, the LWRs—before they would dismantle the nuclear

program; the U.S. wanted compliance with the NPT or other signs of good faith before providing incentives. To resolve this problem, the agreement signed in October has two phases. In the first phase, lasting perhaps several years, North Korea's nuclear program will be frozen: reactors will not operate or be built, and the reprocessing plant will be sealed, all under IAEA inspection. In return, the U.S. will provide interim energy supplies to compensate for the loss of the reactors, and will commit to facilitating the construction of two large LWRs in North Korea. In the second phase, North Korea will dismantle its nuclear facilities, submit to special inspections of suspect sites, and come into full compliance with its obligations under the safeguards agreement and the North-South denuclearization accord. The North claims that it cannot enter phase two until the LWRs are built. According to U.S. law and suppliers-group guidelines, nuclear components cannot be supplied until the North is in full compliance with its NPT obligations; in the meantime, however, work on the non-nuclear parts of the plant can progress. It remains to be seen how this difficulty will be resolved.

Thus, the North Korean nuclear problem has been "solved" for a third time. Will this be the final resolution, the real turning point? I don't know. Aside from the potential pitfalls in implementing the agreement, some people believe that the latest agreement is just another North Korean stalling tactic, designed to buy time and humor the U.S. while work continues on nuclear weapons. Only time will tell.

Q. You seem overly pessimistic about the agreement. Was it not a success because we achieved the most important goal: freezing the nuclear program?

A. Getting the freeze was a big victory, but I think we might have been able to get a bit more up front, such as shipping the spent fuel out. We let them keep all their bargaining chips: knowledge about how much material they have; the spent fuel, which contains six bombs-worth of plutonium; and the facilities, including the reprocessing plant and two large reactors under construction.

Q. We have an agreement on *what* to do, but the difficulty now is to agree on *how* to do it, and who will do it—who will build the reactors and pay for them. North Korea could use any of these as an excuse to delay the process. In the meantime, do you think North Korea has the economic capability to support a program to make deployable nuclear weapons?

A. Any country that can indigenously build and operate a reactor and a reprocessing plant is technically sophisticated enough to build a bomb. We have no hard evidence on which to draw a conclusion about whether they have a bomb or not, but it's presumed that, if they have enough plutonium, they have or could soon have a bomb.

Q. How is this agreement compatible with the NPT regime? Here is a country that clearly violated its treaty obligations and got a reward. Doesn't this set a bad precedent for prospective proliferators?

A. The agreement sets an unfortunate precedent by bribing the North Koreans to give up their nuclear program, and it might not make sense if there was a long line of prospective proliferators that were considering building a nuclear program for the sole purpose of trading it in.

Fortunately, there isn't a long line of such countries out there. What is worse for the nonproliferation regime: to reward a country for giving up its nuclear program? or to stand by our principles and have that same country withdraw from the NPT, produce plutonium and nuclear weapons that would trigger further proliferation? I think those were the choices. I would suffer the relatively minor and theoretical damage of rewarding a proliferator than suffer the almost certain damage of North Korea building bombs outside the regime.

Q. What is the next "speed bump" that will tell us the intention of North Korea in respecting the agreement?

A. The first thing is the spent fuel. North Korea has invited us to inspect the fuel storage area, but are they really going to let the U.S. in? The second thing is the continuing IAEA inspections. The agreement requires routine inspection, but will the North Koreans let the IAEA do what they believe they have to do? If the IAEA is not happy, then the United States cannot be happy, either. If the IAEA wanted to look at their fuel and do some measurements and the North Koreans refused or denied access to certain facilities, this will cause serious problems. The third thing is the contract for the LWRs. North Korea wants to have a contract within six months; the negotiations will be primarily with South Korea. There might be serious disagreements; maybe not. Maybe the LWRs were just a face-saving measure to buy off the North Korean military and nuclear establishments.

Q. Can we determine how much plutonium was produced from the amount of plutonium waste?

A. I have never believed that special inspections of the waste site are important for this reason. They are important politically, but not technically. If there is waste you can tell that they did undeclared reprocessing, but it might be very difficult to find and characterize all the waste and derive from that an accurate estimate of how much plutonium was produced. A much more accurate way would have been to do a nondestructive analysis of the fuel when it was unloaded from the reactor, and this was what the IAEA wanted to do. You can still get a lot of information from such an analysis, assuming it is done in the next couple of years. There are other ways of finding out how much plutonium has been produced that involve looking at the reactor itself, for example the graphite structure of the reactor. Those techniques are promising, and I am optimistic that, if North Korea cooperated, plenty of information exists to estimate, to within perhaps ten percent, how much plutonium they have produced. Of course, the big question is whether North Korea will cooperate.

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