Policy Forum 05-78A: Light Water Reactors at the Six Party Talks: The Barrier that Makes the Water Flow

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Light Water Reactors at the Six Party Talks: The Barrier that Makes the Water Flow

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Light Water Reactors at the Six Party Talks: The Barrier that Makes the Water Flow

By Peter Hayes, David von Hippel, Jungmin Kang, Tadahiro Katsuta, Tatsujiro Suzuki, Richard Tanter, Scott Bruce

The DPRK took less than twenty-four hours to dispel any illusions that the *Joint Statement Released at Six-Party Talks* on September 19th, 2005 (see Attachment 1) had resolved the nuclear confrontation between the international community and North Korea (hereafter DPRK). The media and American analysts in particular have suggested that North Korea's declarations after the Joint Statement were made in bad faith. We suggest otherwise-that North Korea was simply following the formula suggested by the United States to clarify the issues that remain to be resolved.

We also believe that there is a way past the Light Water Reactor (LWR) obstacle that may be acceptable to all parties. In essence, substituting Russian VVER LWR technology for American-sourced LWR technology may be the solution.

The Joint Statement amounted to a DPRK committal to "abandoning all nuclear weapons and existing nuclear programmes", and the United States expressing its "respect" for the DPRK's claimed right to "peaceful uses of nuclear energy". Containing five points, the *Joint Statement* carefully finessed the issue of provision of power reactors to the DPRK. Under the October 1994 Agreed Framework, the United States took responsibility for provision of two LWRs. This task was undertaken but never completed by the Korea Peninsula Energy Development Organization or KEDO. KEDO was to provide two South Korean-built Korean Standard Nuclear Power Plants (KSNP) based on US designs. The KEDO LWR project was frozen and all-but-terminated by the Bush Administration as part of its response to DPRK enrichment activity. In previous Six-Party Talks, the United States has simply refused to countenance resumption of nuclear power in the DPRK of any type and US negotiator at the Six-Party Talks Christopher Hill stated on September 19th, after the *Joint Statement* was issued and the day before the DPRK Ministry statement, that the United States favors terminating KEDO by the end of 2005 (see Attachment 3).

In order to obtain any *Joint Statement* at all, the US negotiator Chris Hill shifted from the Bush Administration's "never again" position to one of avowing "respect" for the DPRK regaining its sovereign right to acquire LWR technology and to discussing such provision at an "appropriate" time. However, Hill could not commit to this position until he saw the DPRK commit to the magic word "all" in the *Joint Statement* , that is, to dismantlement of all DPRK nuclear weapons and "existing" (that is, plutonium and enriched uranium) nuclear weapons programs. Some commentators have argued that the *Joint Statement* did not capture the alleged DPRK uranium enrichment program because the latter was not singled out for special reference; but it is difficult to interpret the text as not referring to all programs, especially if all parties (or all those except the DPRK) concur that enriched uranium must be accounted for in the dismantlement and safeguards certification process.

This commitment was secured by the Chinese as delegates were packing their bags to leave empty-handed. Hill was thereby enabled to agree to discussing the provision of LWRs at an appropriate time. By so doing, he did not commit the United States to provide American LWR technology, nor to funding or facilitating this provision. Rather, he simply committed the United States to discussing the modality and date of such provision in the future.

It is not surprising that the DPRK has immediately declared in a Foreign Affairs Ministry statement issued by KCNA on September 20th (see Attachment 2) that the time for such a discussion is now. Indeed, according to the New York Times, it was US Secretary of State Condoleeza Rice's suggestion that each side issue its own interpretation of the *Joint Statement* after it was signed, which the US negotiator Chris Hill promptly did by declaring that dismantlement must come before LWR provision (see Attachment 3).

The DPRK Foreign Ministry argued that the right modality for LWR provision is for the United States to take the responsibility for achieving it. They have not, however, demanded that the LWRs be of American origin, as was practically the case in the LWR transfer undertaken by KEDO.

Here, the story gets a bit arcane. In 1985, the DPRK struck an agreement with the former Soviet Union to obtain two Russian power reactors-also light water reactors but of a different technological type to current American LWRs. Indeed, at that time the Russians surveyed the seismic suitability of the site at which KEDO later began to construct American-style reactors made in South Korea. However, lack of DPRK financing then stalled the Soviets' sale of LWRs, and Russia was

subsequently only a minor player in the KEDO LWR project. The North Koreans also never paid for the survey which was promptly used by KEDO, much to the chagrin of the Russians.

The *Joint Statement* specifies neither the source of the LWR technology nor who would provide it. But the DPRK demand on September 20th that the United States be responsible for the provision implies several outcomes.

First, the institutional vehicle for such provision likely would be KEDO which is headed by the United States, and backed by South Korea and Japan, plus a raft of other smaller donors such as the European Union, Australia, and Canada.

Second, given the political and legal near-impossibility of obtaining American congressional approval for American LWR technology exports to the DPRK as is required by the 1958 US Atomic Energy Act, KEDO would switch from American LWRs to Russian LWRs. Neither the DPRK nor KEDO sought such approval for the KEDO LWR project by the time it was shelved because the project had not progressed to transfer of the LWR Nuclear Steam Supply System-the milestone by which the DPRK was to have recomplied fully with its NPT-IAEA obligations under the 1994 Agreed Framework. It remained an open, highly political and now moot question as to whether and how this approval would have been given by the US Congress.

Thus, if Russian VVER LWR technology is what the DPRK has in mind-and it was this technology that the DPRK sought in the negotiations leading up to the 1994 Agreed Framework, not American-sourced LWRs--then the latest DPRK statement is neither impractical nor implausible on these scores.

Whether South Korea and Japan would be willing to fund Russian VVER LWRs via KEDO remains an open question. Since the *Joint Statement* was issued, Russian officials have reiterated their willingness to supply VVERs to the DPRK. But for the funding to become available from South Korea and Japan via KEDO, Russia would have to be willing to source much of the VVER hardware from South Korea and Japan.

If this division of labor proved acceptable, then such a project might be linked to completion of a Russia-South Korea electric grid connection that would support the VVERs with a reliable grid which is lacking in the DPRK. It would also buffer North Korea against any South Korean attempts to exploit their dependence on the LWRs for either power or export earnings.

The United States could remain a significant player in the project, both as head of KEDO, in specifying the reactor "co-management" arrangements that the DPRK indicated in the leadup to the *Joint Statement* that it was willing to accept, and as supplier of enriched uranium should it decide that such is desirable. Russia could (with Duma agreement) undertake to accept the spent fuel back from the VVERs to ensure non-diversion of the fuel.

Of course, the primary obstacle to KEDO playing this role would be American opposition to LWR transfer to the DPRK under any circumstances into the indefinite future, based on the view that indefinite parole is justified for states that routinely and repeatedly break nuclear proliferation rules. The problem with such a rigid stance is twofold. First, it would leave the United States isolated at the Six Party Talks. At the last round of Talks, China reportedly told the United States that if it did not show flexibility with regard to the LWR issue, then it would blame the United States for the failure in the international media.

Second, it would miss the opportunity to use sequenced and contingent steps to achieve the actual dismantlement of the DPRK's nuclear weapons program, leaving it home free to build and run its

graphite reactors to make large amounts of plutonium and whatever enrichment capacity it has acquired. Should it prove impossible to actually achieve this outcome and to have recertification by the IAEA well under way, then mere discussions of the provision of LWRs would have no impact on the DPRK's capacity to make more nuclear weapons. If, on the other hand, progress is made, then there is no reason to not have increasing confidence that an LWR project would not contribute to the DPRK's proliferation propensity and capacity.

For its part, the DPRK will also have to be less rigid in the way that it interprets point five of the *Joint Statement* that calls on the six parties to implement the agreement "in a phased manner in line with the principle of 'commitment for commitment, action for action.'" The DPRK Foreign Affairs Ministry has specified its preferred sequence in a very particular manner which will be unacceptable to the other five parties to the *Joint Statement* .

The Foreign Affairs Ministry asserts vaguely that the United States must provide LWRs to the DPRK "as early as possible." But then it drops the bombshell that the United States should "not even dream of the issue of the DPRK's dismantlement of its nuclear deterrent before providing LWRs, a physical guarantee for confidence-building."

Taken at face value, this wording implies that the DPRK envisages not completing or commencing dismantlement of all its existing nuclear weapons programs before LWRs are completed in the DPRK-that is, at least five years, which is after the Bush Administration expires and hardly "as early as possible." Obviously, this would be risky for the DPRK as previous US Administrations have shown no compunction in abandoning past sovereign commitments to the DPRK.

Therefore, one must conclude that the DPRK has a more reasonable position in mind than what this harsh statement implies on first reading. For taken literally, "as early as possible" would likely mean "never."

To infer what the DPRK might be thinking about a meeting of minds on this score, one must return to the *Joint Statement* . Therein, the DPRK committed "to abandoning all nuclear weapons and existing nuclear programs and returning, at an early date to the treaty on the nonproliferation of nuclear weapons (NPT) and to IAEA safeguards."

What might be an "early date" acceptable to the six parties?

Clearly, waiting for provision of LWRs, even Russian LWRs, to be built would not be an "early date." From a practical perspective, and therefore the one that will inform an American view on the "appropriate" time for such discussion, dismantlement could take between 3 months and a year, based on the South African and Libyan precedents.

However, certification that the DPRK is in compliance with its full NPT and IAEA safeguards obligations will take much longer. IAEA certification will require extensive access to sites, lengthy and repeated interviews with North Korean nuclear personnel, and documentation. The IAEA will also certify North Korea only after applying the most stringent version of the latest environmental monitoring and upgraded safeguards agreement, which will have to be negotiated and agreed to by the DPRK, and then implemented-again, likely to be a protracted process based on past IAEA-DPRK negotiation experience.

Resolving the uncertainty related to the first DPRK reprocessing campaign will likely involve drilling into the graphite core of the research reactor at Yongbyon to reconstruct the operating history of the reactor and thereby estimate accurately the plutonium produced all the way back to 1987. Stringent certification will take at least one and more likely two or three years.

Thus, if the warring parties should decide to identify a mutually acceptable "early" and "appropriate" time, then they might settle on commencing discussion of the timing and modality of LWRs to be provided to the DPRK after dismantlement but before completion of the compliance certification; with provision of LWRs to commence after certification is complete. The faster the dismantlement, the faster the DPRK would get to the LWR discussion, in principle, within a few months. After all, we are only talking about planeloads of fissile material and warhead-related equipment, not cargo ships.

The Foreign Affairs Ministry also explains why the DPRK insists that US provision of LWRs is the critical pivot for its willingness to enact the points contained in the *Joint Statement*. It says that it seeks a "physical" confidence building measure between the United States and the DPRK that goes beyond words to actions that demonstrate that intentions have changed. In this way, the LWR issue is simply the "barrier that makes the water flow" from a DPRK perspective.

Like a pitbull with jaws locked on Chris Hill's leg, the DPRK is determined that the United States will not secure its nuclear disarmament for a mere pile of carrots or lemons. Rather, it seeks a security relationship with the United States, and it will not let go until it achieves this goal. We believe that this is the reason for the DPRK's insistence on continuity with the past-that the United States must lead the provision of the LWRs, as in the Agreed Framework-an approach also blessed by former Kim Il Sung and therefore highly legitimate inside the DPRK's polity. If this is the primary DPRK goal-and there is no reason to disbelieve them-and if the United States shuns them and is willing to pay the price with the other parties at the Six-Party Talks for its obduracy, then no alternative formula for the provision of LWRs will work as the DPRK will not be interested. For the United States to take this stance would represent the victory of ideology over pragmatism in the global war on terror, and would accelerate the collapse of the global non-proliferation regime, at least in East Asia. Although there is clearly a path forward that is consistent with the *Joint Statement*, it will require the White House to make choices that it has hitherto avoided.

Finally, we conclude that the Foreign Ministry's September 20th "clarification" is not necessarily inconsistent with the *Joint Statement*. It is the DPRK's prerogative to make maximum demands in the run-up to the next round. Such posturing is the diplomatic equivalent of the piercing scream made by a Korean martial artists readying to make a head kick to disorient and distract the adversary.

For seasoned negotiators accustomed to North Korean "speed" tactics, however, it is an early warning to observe the DPRK's angle of attack, step aside, and let it pass by harmlessly while steadfastly adhering to the fundamental principles in the *Joint Statement* and exploring the room for meeting DPRK demands in creative and constructive ways at the next round of the Six-Party Talks in November.

Attachment 1:

TEXT-Joint statement from North Korea nuclear talks
19 Sep 2005 06:13:23 GMT
Source: Reuters

BEIJING, Sept 19 (Reuters) - Following is the full text of a joint statement issued in Beijing on Monday by the six parties involved in talks on defusing the nuclear crisis on the Korean Peninsula.

"For the cause of peace and stability on the Korean peninsula and in Northeast Asia at large, the six parties held in the spirit of mutual respect and equality serious and practical talks concerning the denuclearisation of the Korean peninsula on the basis of the common understanding of the previous three rounds of talks and agreed in this context to the following:

1) The six parties unanimously reaffirmed that the goal of the six-party talks is the verifiable denuclearisation of the Korean Peninsula in a peaceful manner.

The DPRK (Democratic People's Republic of Korea) committed to abandoning all nuclear weapons and existing nuclear programmes and returning at an early date to the treaty on the nonproliferation of nuclear weapons and to IAEA (International Atomic Energy Agency) safeguards.

The United States affirmed that it has no nuclear weapons on the Korean Peninsula and has no intention to attack or invade the DPRK with nuclear or conventional weapons.

The ROK (South Korea) reaffirmed its commitment not to receive or deploy nuclear weapons in accordance with the 1992 joint declaration of the Denuclearisation of the Korean Peninsula, while affirming that there exist no nuclear weapons within its territory. The 1992 joint declaration of the Denuclearisation of the Korean Peninsula should be observed and implemented.

The DPRK stated that it has the right to peaceful uses of nuclear energy. The other parties expressed their respect and agreed to discuss at an appropriate time the subject of the provision of light-water reactor to the DPRK.

2) The six parties undertook, in their relations, to abide by the purposes and principles of the Charter of the United Nations and recognised norms of international relations. The DPRK and the United States undertook to respect each other's sovereignty, exist peacefully together and take steps to normalise their relations subject to their respective bilateral policies.

The DPRK and Japan undertook to take steps to normalise their relations in accordance with the Pyongyang Declaration, on the basis of the settlement of unfortunate past and the outstanding issues of concern.

3) The six parties undertook to promote economic cooperation in the fields of energy, trade and investment, bilaterally and/or multilaterally.

China, Japan, ROK, Russia and the U.S. stated their willingness to provide energy assistance to the DPRK. The ROK reaffirmed its proposal of July 12, 2005, concerning the provision of 2 million kilowatts of electric power to the DPRK.

4) The six parties committed to joint efforts for lasting peace and stability in northeast Asia. The directly related parties will negotiate a permanent peace regime on the Korean Peninsula at an appropriate separate forum.

The six parties agreed to explore ways and means for promoting security cooperation in northeast Asia.

5) The six parties agreed to take coordinated steps to implement the aforementioned consensus in a phased manner in line with the principle of "commitment for commitment, action for action".

6) The six parties agreed to hold the fifth round of the six-party talks in Beijing in early November 2005 at a date to be determined through consultations."

Attachment 2:

Statement of a Spokesman for the Ministry of Foreign Affairs of the Democratic People's Republic of Korea.

September 20, 2005

"The second phase of the fourth six-party talks on the nuclear issue between the DPRK and the U.S. that opened in Beijing on Sept. 13, drawing the attention of the international community, closed on Sept. 19.

The talks that started on the DPRK's positive initiative in August 2003 were held several times for the last more than two years, repeatedly going through twists and turns.

The talks, however, repeatedly proved fruitless and unproductive due to the conflicting stands among the parties concerned, contrary to the unanimous expectation of the international community toward the denuclearisation of the Korean Peninsula.

We have approached the talks with magnanimity, patience and sincerity, proceeding from the principled, fair and aboveboard stand to achieve the general goal of the denuclearisation of the peninsula at any cost. As a result, we have at last succeeded in meeting all these challenges, making it possible to agree on the joint statement, 'verbal commitments'.

The joint statement reflects our consistent stand on the settlement of the nuclear issue between the DPRK and the U.S. and, at the same time, the commitments of the U.S. and south Korea responsible for denuclearising the whole of the peninsula.

As already known, the issue over which the DPRK and the U.S. have had most serious differences in the 'verbal commitments' to denuclearise the peninsula so far was the issue of the former's right to nuclear activity for a peaceful purpose, to be specific, the issue of the U.S. provision of light water reactors (LWR) to the former.

It was due to these differences that the first phase of the fourth talks held in August last was compelled to go into recess without yielding any desired fruits.

The present U.S. administration, denying in principle the DPRK the right to nuclear activity for a peaceful purpose which pertains to an independent right of a sovereign state, insisted that it could not provide LWRs in any case under the pretext that the DPRK pulled out of the NPT (nuclear Non-Proliferation Treaty) and is no longer member of the IAEA (International Atomic Energy Agency).

Opposing this wrong stand of the U.S., we made it clear that the basis of finding a solution to the nuclear issue between the DPRK and the U.S. is to wipe out the distrust historically created between the two countries and a physical groundwork for building bilateral confidence is none other than the U.S. provision of LWRs to the DPRK. We strongly demanded that the U.S. remove the very cause that compelled the DPRK to withdraw from the NPT by providing LWRs to it.

At the talks, all the parties concerned except the U.S. supported the discussion of the issue of respecting the DPRK's right to nuclear activity for a peaceful purpose *and providing LWRs* to it.

This time the U.S. delegation got in touch with Washington several times under the pressure of the trend of the situation and had no option but to withdraw its assertion. The six-parties agreed to take harmonious measures to implement phase by phase the points agreed on in the joint statement in accordance with the principle of 'action for action' in the days ahead.

As clarified in the joint statement, we will return to the NPT and sign the Safeguards Agreement with the IAEA and comply with it immediately upon the U.S. provision of LWRs, a basis of confidence-building, to us. As already clarified more than once, we will feel no need to keep even a single nuclear weapon if the DPRK-U.S. relations are normalised, bilateral confidence is built and we

are not exposed to the U.S. nuclear threat any longer. What is most essential is, therefore, for the U.S. to provide LWRs to the DPRK as early as possible as evidence proving the former's substantial recognition of the latter's nuclear activity for a peaceful purpose.

The U.S. should not even dream of the issue of the DPRK's dismantlement of its nuclear deterrent before providing LWRs, a physical guarantee for confidence-building. This is our just and consistent stand as solid as a deeply rooted rock. We have so far shaped our policies towards the U.S. hardliners and will do so in the future, too.

One should wait and see how the U.S. will move in actuality at the phase of 'action for action' in the future but should it again insist on 'the DPRK's dismantlement of nuclear weapons before the provision of LWRs', there will be no change in the nuclear issue between the DPRK and the U.S. and its consequences will be very serious and complicated. If the U.S. opts for reneging on its promise, we will go ahead without an inch of deflection along the road indicated by the Songun line, our faith and signpost."

Attachment 3:

North Korea -- U.S. Statement

The following statement by the head of the U.S. delegation to the Six-Party Talks, Christopher R. Hill, was released in Beijing on September 19, 2005

Assistant Secretary of State Christopher R. Hill's Statement at the
Closing Plenary of the Fourth Round of the Six-Party Talks
September 19, 2005

I would like to join with my colleagues from the ROK and Russian delegations in expressing my deep appreciation for China's leadership in chairing and hosting this fourth round of the Six-Party Talks. The United States is able to join in supporting the Joint Statement on the basis of the following understandings:

Let me start by noting that the goal of the Six-Party Talks is the prompt and verifiable denuclearization of the Korean Peninsula. When this goal is achieved, it will open up a new chapter for all Korean people. We know that the document includes undertakings for all the parties; my government is prepared to fulfill all our undertakings.

All elements of the DPRK's past and present nuclear programs - plutonium and uranium - and all nuclear weapons will be comprehensively declared and completely, verifiably and irreversibly eliminated, and will not be reconstituted in the future. According to these principles, the DPRK will return, at an early date, to the NPT and come into full compliance with IAEA safeguards, including by taking all steps that may be deemed necessary to verify the correctness and completeness of the DPRK's declarations of nuclear materials and activities.

But in addition to these obligations, there are also benefits that the DPRK will accrue. But these benefits will only accrue in the context of the denuclearization of the Korean Peninsula. In the statement of principles, there is a reference to the "appropriate time" to discuss the subject of the DPRK's use of nuclear energy for peaceful purposes, such as the subject of the provision of a light water reactor, but that "appropriate time" will only come when the DPRK has:

- Promptly eliminated all nuclear weapons and all nuclear programs, and this has been verified to the satisfaction of all parties by credible international means, including the IAEA; and,

- When the DPRK has come into full compliance with the NPT and IAEA safeguards, and has demonstrated a sustained commitment to cooperation and transparency and has ceased proliferating nuclear technology.

When these conditions have been met, I want to be very clear - we will support such a discussion.

The United States notes that the NPT recognizes the right of parties to the Treaty to pursue peaceful uses of nuclear energy in the context of compliance with Articles I and II of the Treaty. Foremost among the Treaty's obligations is the commitment not to possess or pursue nuclear weapons. The Treaty also calls for its parties to adhere to safeguards agreements with the IAEA. Thus, the DPRK's statement concerning its "right" to the peaceful uses of nuclear energy should be premised upon the completion of verification of the DPRK's elimination of all nuclear weapons and existing nuclear programs and full compliance with the NPT and IAEA safeguards.

I would like to note also that the United States supports a decision to terminate KEDO by the end of the year.

We should also note for the record that the United States will take concrete actions necessary to protect ourselves and our allies against any illicit and proliferation activities on the part of the DPRK.

The United States desires to completely normalize relations with the DPRK, but as a necessary part of discussions, we look forward to sitting down with the DPRK to address other important issues. These outstanding issues include human rights abuses, biological and chemical weapons programs, ballistic missile programs and proliferation, terrorism, and illicit activities. The Joint Statement accurately notes the willingness of the United States to respect the DPRK's sovereignty and to exist with the DPRK peacefully together. Of course, in that context the United States continues to have serious concerns about the treatment of people and behavior in areas such as human rights in the DPRK. The U.S. acceptance of the Joint Statement should in no way be interpreted as meaning we accept all aspects of the DPRK's system, human rights situation or treatment of its people. We intend to sit down and make sure that our concerns in these areas are addressed.

The Joint Statement sets out a visionary view of the end-point of the process of the denuclearization of the Korean Peninsula. It is a very important first step to get us to the critical and urgent next phase - implementation of DPRK commitments outlined above and the measures the United States and other parties would provide in return, including security assurances, economic and energy cooperation, and taking steps toward normalized relations. The United States believes that it is imperative to move rapidly on an agreement to implement the goals outlined in the Joint Statement. We look forward to working with all the other parties, including the DPRK, to do so.

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III. Nautilus Invites Your Responses

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