

Visit to DPRK
John Lewis, Sig Hecker and Jack Pritchard
August. 23 to 27, 2005
Notes by Sig Hecker

These notes summarize the statements made by DPRK Vice Minister of Foreign Affairs, Kim Gye Gwan, and Director General, MFA Bureau for American Affairs, Li Gun. Our comments are given in italics.

Denuclearization:

- The DPRK has made a bold decision to agree to the denuclearization of the Korean Peninsula. To the DPRK that means the entire peninsula. The DPRK claims that to the U.S. that means denuclearization of DPRK only. A denuclearized Korean Peninsula was said to be a death-bed wish of the Great Leader, Kim il Sung.

Conditions for DPRK denuclearization:

- U.S. must remove the nuclear threat against the DPRK – guarantee against the U.S. use of nuclear weapons.
- U.S. must prove there are no U.S. nuclear weapons in the ROK, subject to DPRK verification.
- U.S. must remove the nuclear umbrella from the ROK and alter U.S. forces accordingly.
- U.S. must recognize the sovereignty of the DPRK. *[This was stated as a goal, but also appeared to be a precondition. In addition, Kim stated that a light-water reactor (LWR) is the key to sovereignty].*
- U.S. must normalize its relations with the DRPK. *[Kim stated that as relations are normalized, we'll abandon our nuclear weapons].*

Peaceful nuclear energy (PNE):

- DPRK insists on the right to PNE and the right to exercise the right. Kim claimed that the U.S. said that the DPRK has the right, but it should not exercise the right. They stated that the DPRK has the right; it is not something you, the U.S., grants us.
- The key is an LWR – they want an LWR and if the U.S. has political problems with a U.S.-supplied LWR, then someone else can build it. LWR reflects the sentiment of the DPRK people.
- DPRK needs PNE for self reliance on energy and the economy. They conducted a study that concluded that the DPRK needs an LWR for electricity. They have few natural resources – no oil and insufficient coal. However, they have lots of uranium and graphite. Other countries have similarly concluded that nuclear energy is the proper choice for them. They reminded us that President Bush announced an expanded U.S. nuclear energy program.
- PNE includes radioisotopes for medical, agricultural, and industrial applications. They said the U.S. position appeared somewhat confused on this issue. However, the bottom line was that the U.S. insisted the DRPK have nothing nuclear, permanently. The U.S. expressed its concern over the DPRK's past record.

- Since the graphite-moderated reactor is a dual-purpose reactor (although it is civilian and not banned by the NPT up to the reprocessing phase), they are prepared to get rid of the graphite-moderated reactor fuel cycle because of U.S. concerns.
- Regardless, the DPRK is determined to have PNE. Either the U.S. supplies an LWR or the DPRK will continue with the graphite-moderated reactors. The U.S. must make a choice.
- *Kim vacillated between claiming the LWR was needed for energy vs. its symbolic importance to demonstrate the sovereignty of the DPRK. When we made the case for their dire need to upgrade their conventional energy infrastructure, they gravitated toward the sovereignty issue. It was clear that they wanted us to convey their hard-line LWR message to the U.S. government to strengthen the DPRK's bargaining position.*

Safeguards for PNE:

- They said that since the U.S. is concerned about our past record, the LWR can be placed under international inspection.
- They also stated since the LWR can potentially lead to nuclear weapons, they are prepared to allow the U.S. to control the reactor until the NPT and IAEA inspections are adopted. Once the reactor is complete and under international monitoring, then it can be turned over to the DPRK for operations.
- If they keep the graphite-moderated reactor for energy because the U.S. denies them an LWR, then they will be prepared to stop reprocessing the spent fuel.
- They stated separately that they are prepared to return to the NPT and abide by IAEA regulations once relations are normalized between the DPRK and the U.S.
- They said one can look at enrichment issues for the LWR in two ways: 1) We could develop an inspected enrichment facility or 2) we can buy the fuel from the outside until the U.S. concern is removed.
- *The DPRK has apparently agreed (at least for the time-being) to forgo the front end (enrichment) and back end (reprocessing) of the fuel cycle and place the reactor(s) under international safeguards. That would be a very big step if they could be trusted and if they agreed to eliminate their current clandestine enrichment activities.*

Uranium enrichment:

- Ri Hong Sop, Director of the Yongbyon Nuclear Scientific Research Center, had told John Lewis during our January 2004 visit to Yongbyon that the DPRK had an experimental uranium enrichment program in the 1980s, but abandoned it in favor of concentrating fully on plutonium once their reprocessing facility was complete in 1992.
- During this visit, when John asked Director Ri if he understood him correctly in 2004, Director Ri responded "you do not have the right explanation." To answer John's specific question he said that the DPRK did not purchase gas centrifuges in the 1980s.

Feb. 10, 2005 DPRK announcement that it has manufactured nuclear weapons:

- Vice Minister Kim Gye Gwan said that their nuclear weapons are secret. They cannot show us nuclear weapons. Our countries are still in a cease fire – a state of war.
- On the other hand, Director General Li Gun said that you should go to the nuclear weapons site and you should see our nuclear weapons.

- We asked questions of Lt. Gen. Ri Chong Bok (?), Kim Gye Gwan and Li Gun (separately) about deterrence and nuclear doctrine. *We got the impression that at least these people have not given this much thought.*
- *We also mentioned that to have an “effective” deterrent you may have your nuclear arsenal in a state of readiness. If that is so, how do you deal with concerns about nuclear weapons safety? We got the impression that this is something these people have not thought about at all.*
- When we asked Director Ri what his and the Yongbyon nuclear center’s involvement is in nuclear weapons manufacture as announced on Feb. 10, he replied that the center’s role is to provide the plutonium metal. After that it’s someone else’s responsibility.

Denuclearization implementation issues:

- Director General Li Gun stated that he was very concerned about the “rehabilitation” of the workforce at Yongbyon in case the nuclear facilities are closed and decommissioned.
- We explained what the U.S. has done with Russia and other states of the former Soviet Union under the aegis of the Nunn-Lugar cooperative threat reduction program. Li Gun expressed special concern about the support workers as opposed to the nuclear specialists. They constitute the majority of the workforce in Yongbyon. What happens to them?
- He told us that Yongbyon was and still is a major silk-producing area. Perhaps one could develop silk factories in the area to provide employment for such workers. Hecker explained what was done in Russia under the Nunn-Lugar program.

Sequencing:

- *It was very difficult to get a sense of how the DPRK would sequence the necessary actions to achieve denuclearization of the Korean Peninsula.*
- They stated that they told the Americans that they will follow a “words for words” and “actions for actions” policy.
- *We also believe it will be important to separate actions that are easily “reversible” from ones that are essentially “irreversible.”*

Hecker summary of his meetings with Yongbyon Nuclear Center Director Ri Hong Sop – to Vice Minister, Kim Gye Gwan at wrap-up dinner on Aug. 26, 2005

- Hecker said he understood Director Ri's explanation that we could not visit the Yongbyon nuclear center this time because of the elevated radiation levels resulting from the current reprocessing activities.
- Hecker gave a brief summary of Director Ri's update of Yongbyon nuclear activities:
 - 5 MWe reactor – ran successfully for over 2 years, was unloaded at the end of March, reloaded in May and began operating again in mid-June at full power.
 - Reprocessing – after approximately 3 months in the cooling pool, the 8000 fuel rods are being reprocessed now. With a recent upgrade of the reprocessing line, they are almost finished extracting the plutonium metal from all 8000 fuel rods.
 - 50 and 200 MWe reactors – their design to finish the 50 MWe reactor was complete. They are preparing the construction workers to resume construction. It should not take very long to complete (*although Ri would not commit, we believe he implied a couple of years, rather than five or six*). The 200 MWe reactor is still under study. It will cost more to complete the reactor at the current site than to start over.
- Hecker said that the two of them also discussed the technical aspects of peaceful nuclear energy and safeguards against weapons use. They concurred that both reactors can be used for nuclear weapons. Although technical measures can be taken to decrease such a possibility (and such measures are easier for the LWR than the graphite-moderated reactors), such measures cannot completely eliminate the possibility of weapons use. Therefore, Hecker concluded that it will be a political decision to reduce the remaining risks to acceptable levels. In his opinion, such a decision will depend on: the level of trust between the parties; the openness, transparency, monitoring and verification agreements; the acceptance of international norms and demonstrated performance to those norms (such as NPT compliance), and enforcement provisions.
- Hecker added that he recognizes the symbolic and political nature of the nuclear energy option, but that he wanted to re-iterate what he believes the DPRK needs from a pragmatic standpoint – that is, a massive upgrading of its conventional energy infrastructure and an immediate supply of conventional energy. If energy is needed now, then nuclear is not the preferred option.
- Hecker reiterated points that he, John Lewis and Jack Pritchard made at the earlier meetings. That is, U.S. analysis, such as that by the Nautilus Institute, shows that the entire grid and infrastructure needs desperately to be upgraded. Hecker explained that this means all aspects of energy – namely, production, transmission, distribution and use. Without a massive upgrade it would not be safe to hook an LWR into their current system. In addition, the LWR takes a long time, it can be shut off with the click of a switch even once it's operating, and if it's built by others, it does nothing to build up their human capabilities. On the other hand, upgrading the grid and infrastructure has irreversible benefits to the DPRK and will do more to develop their human potential.
- *Kim was not swayed by these arguments. He said they know their needs – after all it's their country. And an LWR is what they want.*