



North Korea Reveals Uranium Enrichment Facility and Light Water Reactor

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"We have learned rather serious lessons to not believe anyone. So to solve the energy problem in our country, we need to rely on ourselves. Therefore, we made the political decision to develop our own Light Water Reactor. And during the absence of Six Party Talks, we have begun construction on an LWR. We are doing our best to complete the LWR fuel cycle with no more wasted time. We are mobilizing R&D efforts and research to enhance our nuclear capacity." -- Senior Official from the General Bureau of Atomic Energy in a discussion with KEI's Jack Pritchard and Nicole Finnemann on November 5, 2010 at the Yongbyon Nuclear Facility, North Korea.

On November 2-6, KEI President Jack Pritchard and KEI Director Nicole Finneman visited Pyongyang to discuss with North Korean officials the current state of North Korea's foreign relations and gain a better understanding of the changes that have taken place in North Korea since their last visit in 2009. Their trip not only included extensive meetings with Ambassador Li Gun, Director General of North American Affairs of the DPRK Ministry of Foreign Affairs and First Vice Minister Kim Gye Gwan, but also an unanticipated visit to the Yongbyon nuclear facilities where the KEI team were the first foreigners to see the beginnings of a light water reactor and evidence of an uranium enrichment program.

Nuclear Discovery

At the Yongbyon site, Pritchard and Finneman were briefed by officials from the General Bureau of Atomic Energy on the current status of the 5 Megawatt (electric) graphite reactor and the construction of a new 100 Megawatt (thermal) Light Water Reactor (LWR). Up to this point, the U.S. and South Korean intelligence were unaware that the mysterious construction site at Yongbyon was actually the foundation for a new indigenously built LWR. Later, the findings were immediately reported to appropriate U.S. government officials and shared with Dr. Siegfried Hecker, Stanford University professor at the Center for International Security and Cooperation, who was visiting the same facilities the following week.

Highlights from discussions with North Korean officials:

- Discovery of a 100 Megawatt (thermal) Light Water Reactor under construction.
- Discovery that North Korea's uranium enrichment facility was located at Yongbyon.

In the discussion with the Director of the Safeguards Division of the General Bureau of Atomic Energy, he said that North Korea had always preferred to have a Light Water Reactor, but the lack of technology had forced North Korean scientists and engineers to construct a graphite moderated reactor years ago. Now with some advancement, the government has decided to build an indigenous experimental 100 MW (thermal) light water reactor. That said, the official initially acknowledged the difficulties of procuring key components because of international sanctions, but ended by assuring the KEI team that North Korea was capable of building the reactor without any outside assistance. It was described as an experimental reactor that the North Koreans wanted to build on their own to gain the technology and construction experience before moving on to larger LWRs capable of producing significant amounts of electricity.

When asked how long it would take to complete the reactor, the Director indicated that because this was their first attempt at building an indigenous LWR, they were uncertain of their timetable and what challenges that would emerge. Later, he later modified his estimate for completion by 2012, the 100th anniversary of the birth of Kim Il Sung.

During the course of these briefings, North Korean officials inadvertently revealed the existence and location of their little known uranium enrichment program. The program was located at Yongbyon as well. At Pritchard's urging to North Korea's leadership to be transparent and avoid the path that Iran was on, officials later opened up their uranium facility to Dr. Hecker whose visit followed just after the KEI meetings. At an event hosted by KEI, Dr.

Hecker reviewed his visit to Yongbyon and detailed the astonishingly modern uranium enrichment facilities including a control room that was comparable to any found in American production facilities. In addition, the facility contained 2000 centrifuges that were said to be for the production of low-enriched uranium to fuel the LWR. Hecker's full report is available on KEI's website (www.keia.org).

Selected Meetings with NK Officials/Organizations:

- Ambassador Li Gun, Director General of North American Affairs of the DPRK Ministry of Foreign Affairs
- First Vice Minister Kim Gye Gwan
- Officials from the Ministry of Foreign Trade

Six Party Talks: Denuclearization stuck until normalization

Pyongyang understands from its discussions with China that the United States, South Korea and Japan are not ready to rejoin Six Party Talks, so North Korea will not be in any haste to push the restart of the Talks. But, Pyongyang was interested in trying to get various international sanctions lifted. Furthermore, North Korean officials said that as long as normalization was missing, denuclearization was not possible. They proposed parallel movement on achieving a peace regime and normalization, saying that it was not practical to make progress on any one issue without making progress on others. They stated any future discussions of denuclearization would focus on the entire peninsula implying a continuing concern by North Korea that there were U.S. nuclear weapons in the South. One official stated that the North Korean military believed the U.S. had nuclear mines along the DMZ.

Denying the Cheonan

North Korea continued to deny any involvement in the sinking of the South Korean vessel Cheonan, declaring that the United Nations Security Council Presidential Statement had put an end to the incident. Officials then went on to refute the South Korean investigation by saying that the report cites that remnants of a North Korean torpedo found in the vicinity of the sinking were composed of an aluminum alloy whereas North Korean torpedoes are made of a metal alloy. When asked about a straightforward statement of regret over the loss of life, the North Korean officials cited a previously

published statement by the National Defense Commission on April 17 which said: *“Though the sunken large ship belongs to the south side, we have so far regarded the accident as a regretful accident that should not happen in light of the fact that many missing persons and most of the rescued members of the crew are fellow countrymen forced to live a tiresome life in the puppet army.”* So much for an apology!

Color Commentary: Pyongyang's new look

A striking difference from the 2009 trip was the cleaner and more modern look to the city of Pyongyang. The city has been undergoing construction and beautification during the last few years, which appears near completion. In addition, Pyongyang's famous women traffic guides have also been pushed aside by new traffic light systems leaving the all too familiar white circles in the middle of the intersections noticeably empty. Now, these guides can be seen off on the sides of the roads serving more secondary roles. Finally, another intriguing change has been the increase in the public use of cell phones. The number of cell phones in operation grew from 50,000 in 2009 to over 300,000 this year. Ministry officials appear comfortable sending text messages on their wireless phones. That said, handsets are reportedly still prohibitively expensive and still not affordable except for elites.

Overarching Message: North Korea is stable and pressing ahead

While the trip involved a number of individual meetings and visits to various organizations and locals, the general message the North Koreans attempted to convey to Finnemann and Pritchard was that the power transition to the next generation was under control and proceeding smoothly. They indicated that Kim Jong Il was healthy and that they were pleased to be able to serve the “young general” in the future as Kim Jong Un had just been elected vice chairman of the Central Military Commission of the Korean Workers Party. Moreover, Pyongyang would not wait for the United States to reengage it, but rather North Korea was confidently moving forward with its own plans for 2012 as demonstrated by the LWR construction, the revelation of the uranium enrichment facility, and its willingness to display it to the world.