

North Korea's Alleged Large-Scale Enrichment Plant: Yet Another Questionable Extrapolation Based on Aluminum Tubes

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When North Korea's nuclear capabilities are discussed, it is often taken for granted that North Korea has or is building a large uranium enrichment plant capable of making enough highly enriched uranium for several nuclear weapons a year. It is time for this questionable claim to be reexamined, particularly in light of the recent agreement negotiated at the Six Party Talks in Beijing.

Former and current U.S. officials are using the presumed existence of a large centrifuge plant, reportedly based on sophisticated gas centrifuges, either to oppose this agreement or issue dire warnings about its future. Michael Green, former senior director for Asia on the National Security Council, wrote recently in *Newsweek International* "Pyongyang has still refused to acknowledge the existence of its HEU program, which violates all previous commitments and could produce dozens of bombs once operational. If North Korea does not include the program on its list of nuclear facilities to be dismantled, the deal cannot move forward."

However, a large centrifuge plant likely does not exist; perhaps it never did. The 2002 U.S. intelligence assessment that originally claimed to have established the existence of this plant appears to be based heavily on the order of thousands of aluminum tubes. Like the Iraqi high strength aluminum tubes used by the CIA to argue that Iraq was building thousands of gas centrifuges, the analysis about North Korea's program also appears to be flawed. The intelligence community conducted this assessment at the same time it produced a number of flawed assessments about Iraq's WMD program, which alone should trigger concern about past assessments of North Korea's centrifuge program.

There is ample evidence to suggest that North Korea did acquire equipment and centrifuges for a small-scale gas centrifuge program, including a centrifuge starter kit from the notorious Pakistani Abdul Qadeer Khan, and many items for a small-scale program from abroad. However, no information exists on the status or accomplishments of this effort.

There is a significant difference between putting together a small-scale centrifuge program involving a few dozen centrifuges and building and operating a comprehensive, large-scale production plant involving the manufacture of thousands of complete centrifuges. Basing policy on the latter when the former may be the case is a mistake, as policy towards North Korea that does not reflect the reality of its nuclear programs could lead to further missed opportunities and the squandering of recent progress. It was the claim of the existence of a large program that brought down the 1994 Agreed Framework

in the fall of 2002 and poisoned many cooperative initiatives between North Korea and its neighbors.

On a recent visit to Pyongyang, Joel Wit, a former State Department official, and I had discussions with Foreign Ministry officials, including Vice Minister and chief negotiator Kim Kye Gwan, and General Director Li Gun, about the centrifuge issue. Although they continued to deny that North Korea has any enrichment program, they both expressed a desire to deal with this issue. Kim told us that his government has a “will to clear this issue up.” He recognized that this issue soured all relations with the United States in the fall of 2002. They both said that North Korea was willing to respond to any written evidence presented by the United States about a North Korean centrifuge program, and both expressed confidence that North Korea could resolve this issue.

These discussions should be anchored by sound U.S. assessments of North Korea’s centrifuge program. It is critical to reconsider the U.S. intelligence assessments about North Korea’s centrifuge program.

CIA’s 2002 Assessment

According to a fact sheet distributed by the CIA to Congress on November 19, 2002, there was “clear evidence indicating the North has begun constructing a centrifuge facility.” The CIA assessed that this plant could produce annually enough HEU for two or more nuclear weapons per year when it is finished, and it could be fully operational “as soon as mid-decade.”¹

Bush administration officials and some in the intelligence community could not resist hyping this assessment. They told the media in late 2002 that the plant could be finished by the end of 2003 and then make enough HEU for up to six nuclear weapons per year. In these public discussions, the CIA and the Bush Administration did not mention any alternatives or uncertainties about this assessment.

Based on a range of interviews with knowledgeable US, South Korean, Chinese, and Japanese officials from late 2002 to 2006, the most important piece of evidence of a large plant was the detection of North Korea’s attempted and actual procurements of thousands of 6000-series aluminum tubes from Germany and Russia in the early 2000s. Many have proclaimed this evidence as the “smoking gun” of a large-scale plant under construction in North Korea

The aluminum tubes sought or procured by North Korea are easy to obtain internationally and by themselves, are not a reliable indicator of the existence, status, or construction schedule of a gas centrifuge plant. Without other information about the procurement of more sensitive centrifuge components or other concrete information about a centrifuge plant, projections of the construction of a large-scale plant and its possible completion

¹ A shorter version of this fact sheet is on the web site of the Federation of American Scientists at [November 2002 National Intelligence Estimate on North Korea](http://www.fas.org/nuke/guide/dprk/cia111902.html), or www.fas.org/nuke/guide/dprk/cia111902.html.

date must be viewed as speculation. One knowledgeable former senior U.S. official told Joel Wit: “The idea that I can tell you that by mid-decade they are going to be producing a couple bombs’ worth of HEU is simply bad tradecraft.”²

In addition, the supposed admission by North Korean officials in late 2002 about a centrifuge program may have been oversold by U.S. officials. This same official told Wit that “the notion that they admitted to the HEU isn’t as clear-cut in the transcript as in the oral tradition that the meeting seemed to foster.”³ Regardless, North Korean officials have never been reported to have said in this meeting that they were building a large-scale plant.

By 2004, a few intelligence officials were downplaying the original assessment. One former State Department official stated in 2004 that there were disagreements over the projected schedule for the completion of the centrifuge plant. *USA Today* on November 4, 2004 quoted a U.S. intelligence official that the CIA is “not certain there even is” a uranium enrichment plant.

In the last few years, firm evidence to support the existence or schedule of the construction of a large scale centrifuge has not emerged. In particular, evidence of large-scale procurements of sensitive centrifuge items remains missing. Given North Korea’s limited capabilities, it would have been expected to seek many sensitive items for the plant from abroad. One senior U.S. official knowledgeable about the intelligence on North Korea’s nuclear program said in January 2007 that there has not been evidence in the last few years of procurements for a large-scale North Korean centrifuge program.

What were the other possibilities?

Unlike the tubes procured by Iraq, these tubes are consistent with known centrifuge components, in this case the outer casing of a P-2-type centrifuge. Several alternative possibilities exist:

- The reclusive, totalitarian state sought to buy everything it could for a centrifuge program, despite its inability to actually build a functioning facility. The items may have been placed in storage.
- North Korea bought the tubes for someone else. A European intelligence agency that knew of the procurement of the tubes believed at the time that this was indeed the case. After later learning about Khan’s sales of about 20 centrifuges to North Korea, this official could not exclude that the tubes were for a North Korean centrifuge effort, but said in late 2004 that he thought there was little chance that a large-scale centrifuge program would surprise us someday.
- Another possibility is that the scale-up never happened, despite initial preparations that could have even included the start of the physical construction of a plant.

² Joel Wit, “Enhancing U.S. Engagement with North Korea,” *The Washington Quarterly*, Spring 2007.

³ Ibid.

The explanation chosen by the Bush Administration may have been the most appealing in the axis-of-evil charged atmosphere of 2002, when CIA analysts were misreading other secret nuclear programs and the Bush Administration placed great emphasis on the vague notion of “connecting the dots.” But the time has come to set this old assessment aside.

Certainly, questions remain about North Korea’s gas centrifuge program that must be resolved if an agreement is to move forward and nuclear dismantlement is to occur verifiably. But the flawed 2002 assessment must not be allowed to undermine this agreement or distort our reactions to declarations North Korea may make once it fulfills its obligations to dismantle its nuclear weapons program.