

## **Regional Verification of a Denuclearized Korean Peninsula: A Strategy for Success after the Current Impasse Is Overcome**

John Olsen  
Sandia National Laboratories\*

### **The Issue**

The unfrozen and unsafeguarded nuclear weapons program in the Democratic People's Republic of Korea (DPRK) is the most serious issue confronting the international community in East Asia. While US government attention focuses on returning the DPRK to "frozen" status and dismantling the apparent dual-breakout strategy in plutonium production and high-enriched uranium (HEU), less attention has gone into planning for verification of a nuclear-weapons-free Korean peninsula. The current impasse may end in a broad agreement, a "grand bargain," with the DPRK that addresses nuclear weapon, missile, and conventional force issues, and offers the North security guarantees and substantial economic aid in exchange.

Under these conditions, a new approach to verification will be required for several reasons: First, verification tasks in the DPRK would include certain nuclear weapon issues that are outside the scope of the IAEA mission. Second, the new agreement would likely involve increased aid, and contributing countries will insist on assurances that the DPRK is complying with its agreements. Third, the security guarantee will probably be multilateral, suggesting a multilateral approach to verification. Finally, a new approach would be needed to avoid the pitfalls of previous bilateral (US-DPRK, IAEA-DPRK, and ROK-DPRK) agreements, all of which have failed to weather the vicissitudes of regional volatility.

### **Regional Verification: A Possible Approach**

Assuming that the DPRK agrees to verifiably dismantle its nuclear weapons and freeze its long range missile programs, we suggest that a regionally managed verification regime, staffed and sustained by all interested parties (Russia, China, ROK, DPRK, Japan, IAEA, and the US) could be an effective solution. This regime's charter could be verification of all present and future nuclear agreements for both North and South Korea: Safeguards, weapon program dismantlement and measures included in the ROK/DPRK Denuclearization Agreement of 1992. The "grand bargain" may require verification of missile and conventional force terms, as well. In order to contribute to a lasting and broadening reduction of inter-Korean tensions, a role in monitoring agreements on biological or chemical weapons could be considered for the future.

Each of these countries has strong interest in a peaceful, nuclear-weapons-free peninsula and has called on the DPRK to return to compliance with the Nonproliferation Treaty (NPT). In addition to supporting global nonproliferation regimes, these countries also have strong national interests:

- Russia's President Putin is pursuing an ambitious plan to expand economic growth in the Far East using the Trans-Siberian Railway to connect through North Korea to South Korea. Russia's Far East would be more secure without a nuclear race that might expand to include Japan, China, South Korea and Taiwan.
- China is concerned that a nuclear threat from the DPRK could overturn the Japanese commitment to forswear nuclear weapons, swiftly threatening the Asian balance of power.

As Shambaugh<sup>1</sup> points out, China's goal is regime reform in the North to secure a peaceful environment for economic growth. It seeks to avert inflamed relations between North and South Korea, especially those that could provoke US military actions.

- Japan faces the prospect of a nuclear threat from a nuclear-weapon-armed North and remembers the Taepodong missile test of 1998 that overflew Japan. As a US ally, it knows that it may be a target in a confrontation resulting from DPRK nuclear adventurism. Abandoning its Peace Constitution and facing an aggressive, nuclear-armed and missile-wielding Korean neighbor would be very unpopular.
- The Republic of Korea is most threatened, if not by the nuclear weapons themselves, then by the cover they might provide for ever more extortionate demands from the North. Already the political split on the proliferation policies in the North is having a corrosive effect on ROK society and on the US-ROK Alliance.
- The US, as guarantor of the ROK's and Japan's security and foremost advocate of nonproliferation, faces an adversary who is determined to convert every issue into a bilateral confrontation. The US needs a comprehensive solution that leverages on the shared interests of all regional parties, while effectively and verifiably reducing the threat.
- The DPRK is primarily concerned with regime survival and may exchange verifiable denuclearization for a multilaterally guaranteed security pact. If such a grand bargain can be made at the highest levels, the DPRK may accept multilateral participation in future assurances of security on the peninsula.

### **Roles of the Potential Partners**

Each country plays a role and brings special assets to a regional verification regime:

#### *Russia*

Russia has relatively good relations with the DPRK, and a long history of engagement in the military and nuclear arenas. In addition, Russia has extensive experience in nuclear disarmament and nuclear monitoring borne of US-RF cooperation over the past decade. The RF nuclear weapons program has many capable experts in nuclear material control, protection and accounting (MPC&A). For example, the Institute of Automatics (VNIIA) in Moscow possesses the necessary technical expertise.

#### *China*

China, as the DPRK's largest aid supplier, would represent a sympathetic presence in a verification regime. China could influence DPRK compliance within a regional regime, mitigating the North's tendency to make every dispute a bilateral issue with either the US or the IAEA. Although China is a nuclear weapon state, it has submitted civilian facilities to international safeguards, pledges to observe export controls, and has participated in IAEA safeguards training.

#### *Japan*

Japan could play a major role in funding a regional verification regime. Since the mid-nineties Japan has allocated substantial funds to support dismantlement of nuclear weapons and other activities in the Russian Federation. RF leadership and technical activity in a Korean Peninsula verification regime could qualify for funding within this established program. Moreover, Japanese and ROK nuclear materials inspections

---

<sup>1</sup> David Shambaugh, "China and the Korean Peninsula: Playing for the Long-Term," NAPSnet at [http://www.nautilus.org/pub/ftp/napsnet/special\\_reports/shambaugh.pdf](http://www.nautilus.org/pub/ftp/napsnet/special_reports/shambaugh.pdf), March 24, 2003.

institutions, the NMCC and TCNC, respectively, have been engaged in very cordial cooperative exchanges since 1996. This cooperation may enable Japan to play a direct role in nuclear inspections.

### *ROK*

The ROK is most affected by the nuclear crisis, yet finds itself almost as a bystander. A regional verification regime gets the ROK back into the picture and establishes a relationship with the North that is more in keeping with the ruling party's "Sunshine" policy. The ROK might take the lead in training the DPRK inspectors who would participate and could achieve the aims of the 1992 Denuclearization Agreement – a significant political success. In addition, The ROK has made significant investments in capabilities for arms control monitoring and inspections since founding the Korea Arms Verification Agency (KAVA) in the early 1990s.

### *IAEA*

The IAEA is charged with monitoring DPRK obligations under the NPT, but its role is restricted to civilian nuclear facilities and material. This role could continue in cooperation with the other parties of the regime. If nuclear weapons are dismantled, the nuclear weapon states in the regime might take the lead and place the defense nuclear material under verification, which could include the IAEA. For example, in the future it is expected that IAEA will verify defense nuclear material at the Mayak facility in Russia. The IAEA also has experience in cooperating with other regional nonproliferation regimes: EURATOM carries out material safeguards in Europe and reports to the IAEA. In South America, ABACC has become a partner with the IAEA in monitoring compliance with the NPT in Argentina and Brazil. Underfunded as the IAEA is, partnership with a regional regime might be a desirable way to meet their responsibilities.

### *United States*

The US would retain the lead responsibility in striking the grand bargain that addresses security and comprehensive nonproliferation. The US would play a major role in setting demanding goals for the verification regime and coordinating establishment of the regional regime. Government-to-government agreements probably would be needed between the US and all parties to enable appropriate institutional cooperation in the verification regime.

### *DPRK*

The DPRK needs to be drawn into the regional verification process as a full partner. The DPRK may evolve gradually to a more "normal" nation as their participation in the verification regime assures them of a secure environment.

## **A Regional Verification Regime: Practical Issues**

A regional verification regime could have the following responsibilities:

- Monitor refreezing/dismantling the DPRK nuclear weapons facilities
- Verify Compliance with NPT
  - Resolving the past history of the Yongbyon radiochemistry plant, the IAEA retaining the lead responsibility in this

- Administering and conducting all normal safeguards activities on the peninsula
- Implementing Strengthened Safeguards agreements on the peninsula
- Verify North-South Denuclearization Agreement
  - Subsuming roles envisioned for the Joint Nuclear Control Commission (JNCC) under the 1992 Denuclearization Declaration for North-South mutual inspections
  - Inspecting and freezing the HEU program and safeguarding or removing any products
  - Instituting comparable verification of non-enrichment and non-reprocessing compliance in the ROK
- Verify Dismantlement and Reduction Terms
  - Receiving, dismantling and safeguarding any nuclear weapon components that DPRK possesses, weapon state members of the regional regime taking the lead in this until the materials can be placed under normal safeguards
  - Verifying freeze on the facilities for developing and producing long range missiles
  - Verification of mutual reductions or redeployment of conventional forces

The regional verification regime should be located close to, but not on the Korean peninsula. Two competing options might be considered in Vladivostok, Russia or Shenyang, China. Both locations have air connections to both Koreas and avoid problems associated with basing in one or the other of the inspected parties. If the new institution is located in Vladivostok, a RF nuclear laboratory might manage it conveniently. This would benefit from extensive US-RF cooperation on nuclear security in the last decade and feature Russian technical expertise. Additionally, Russian leadership and basing might qualify for financial support from Japan.

China's Shenyang is also close at hand. A city of 8 million, it has good air connections and is about four hours by road from the North Korean border. While China is typically reluctant to take a leadership role, perhaps a multilateral format may be more attractive. This suggests joint Chinese-Russian leadership, where China leads in logistics and institutional development and Russia leads in technical verification. The other partners will have to consider whether they can accept a Chinese location, or fear development of a Chinese "dominant influence" on the peninsula.

The size of a regional institution would be relatively small. Considering the difficulties of inspecting inside the DPRK, and also the breadth of nuclear industry in the ROK, we might estimate<sup>2</sup> that a permanent Russian management staff of about ten would be sufficient, supported by about 20 secretarial and clerical staff. Roughly 25-30 inspectors would be needed for combined industries of North and South Korea; these could be drawn from 3-5 inspection experts each from China, ROK, RF, Japan, DPRK and the US. The IAEA's Tokyo center could also assign 6 inspectors. During the initial phase, while the IAEA would be taking the lead in clarifying the past history of the Yongbyon radiochemistry facility, the IAEA might assign a larger team. Additional technical support staff (20) would be needed to provide communications, database capabilities, reporting to the IAEA, calibration of instruments, and

---

<sup>2</sup> Roughly based on precedents: (a) ABACC with 9 people including secretaries for 2 countries, 4 reactors and 3 enrichment plants or (b) Japan with 60 inspectors for 52 power reactors, reprocessing, enrichment and fuel fab plants, or (c) Japan's Rokkasho projected to need 20 inspectors. We scale these to the situation of the ROK and DPRK, which would have 19 power reactors and frozen reprocessing and enrichment facilities.

laboratory testing of samples. If in Vladivostok, most of these staff would be assigned from a RF institution, perhaps supplemented by DPRK and ROK technicians. If in Shenyang, the support staff would be assigned from Chinese institutions, supplemented by DPRK and ROK technicians. Establishing a new institution in Vladivostok or Shenyang, training regional inspectors, and transferring inspection responsibilities from IAEA-Tokyo would be the initial tasks of the organization. Once the organization was functional, it would be strong enough to undertake the Yongbyon determination. The institution would need a transition plan wherein the IAEA would play a dominant role in this first big step, since the IAEA already has this as a principal responsibility.

### **Conclusion**

Preventing a nuclear arms race in Northeast Asia would be a significant success for the US and the international community. A regional verification regime for a non-nuclear Korean peninsula could be a new, positive aspect of future US relations with China, South Korea and Japan. It would also cement ties that have developed between the US and the RF over the last decade of cooperation. This might open up new roles for RF scientists and engineers (potentially with Japanese funding), address critical ROK, Japanese, Chinese and US security concerns, and return the US-ROK alliance to smooth cooperation. All of these are substantial gains toward US policy goals.

Although the verification regime would initially focus on the nuclear issues, the charter of the overarching agreement should include missiles and conventional forces. As we have learned from the KEDO/Agreed Framework experience, a narrow charter is efficient in carrying out a well-defined goal, but brittle when subjected to stresses from a new direction. Therefore, verification of cessation of long-range missile programs and defensive deployment of conventional forces should be linked to the nuclear issue in a comprehensive package. Moreover, multilateral security guarantees and economic assistance may be more robust and credible when offered within the multilateral framework.

Contact: John Olsen (505) 284-5052, [jnolsen@sandia.gov](mailto:jnolsen@sandia.gov)

---

\* Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed-Martin Company, for the United States Department of Energy under contract DC-AC04-94AL85000.