

Nonproliferation Policy Towards North Korea

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With North Korea’s second nuclear test in May 2009, the prospects for achieving U.S. nonproliferation goals for that country seem to fade further into the background. A long-standing goal has been to bring North Korea into compliance with its Nuclear Nonproliferation Treaty (NPT) obligations – in effect, nuclear disarmament. The elements include, roughly, a freeze on production capabilities (plutonium production and separation and uranium enrichment), securing (and removing or eliminating) weapons-usable fissile material and/or nuclear weapons, and full-scope safeguards on all nuclear material to ensure peaceful use. Since 2002, an additional goal has been to ensure that North Korea does not engage in onward proliferation – the transfer to other states or non-state actors of WMD-related materials, technology, equipment, or actual weapons. With North Korea’s declaration in 2003 of withdrawal from NPT, its compliance is now no longer a “simple” question of verifying disarmament and the absence of undeclared activities, facilities and materials. Instead, it begins to look much more like U.S. policies toward India, Pakistan and Israel. The ultimate goal must remain a recommitment to the NPT. Short of that goal, however, it is desirable to move towards a mid-way station that would, at a minimum, a) halt further nuclear weapons development; b) cap fissile material production; and c) stop or minimize WMD-related exports. We can call this “steps toward the nonproliferation mainstream.” In addition to steps that provide incentives for North Korea to take actions to support these interim actions, it will be equally important to develop measures to reduce the demand for North Korean WMD services and exports as well as make it more costly for North Korea to engage in clandestine trade. In sum, a package of steps is needed to reduce North Korean supply of WMD technology and materials as well as demand for North Korean exports.

Steps toward the “nonproliferation mainstream”

With India, U.S. policy under the Bush administration promoted steps that it suggested would bring India into the nonproliferation mainstream, because no one realistically believed it would be possible to get India to adhere to the NPT as a non-nuclear weapon state. These steps included a unilateral test moratorium, support for a treaty to halt production of fissile materials for nuclear weapons (FMCT), enhanced export controls, and adherence to NSG guidelines. A partial acceptance of safeguards on civilian nuclear facilities was part of the package, but that is not applicable to North Korea at this time for many reasons (nor is it particularly compelling logic with respect to India). Underlying this approach to India was the assumption that some progress is better than none, and that incremental steps that support nonproliferation norms would be beneficial. Opponents of the new U.S.-India nuclear cooperation deal suggested that India needed to go further and at least stop producing fissile material for nuclear weapons as have the declared five nuclear weapon states.

To skeptics of the U.S.-India deal, India did not agree to anything it was not already engaged in, and it could still back away from several of the commitments. There is little doubt that India will continue to abide by the unilateral test moratorium, but if it really

saw a national security requirement to test, it could do so. The price India would pay would be the end of nuclear cooperation with the United States.

In the case of North Korea, there is no similar disincentive to discourage North Korea from further tests. A deal with North Korea will likely require some kind of significant nuclear cooperation in exchange for actions to move it towards the mainstream; it could be, however, that North Korea, having seen the Indian example, will refuse to accept limits (e.g., dismantlement) on its weapons.

With respect to North Korea, a stronger attempt at defining the nonproliferation mainstream is needed. In addition to North Korea’s accepting the general norm of nonproliferation – that is, no transfer of weapons of mass destruction, their technology or their material – policy toward North Korea must also include restraints on actual weapons of mass destruction, their technology or materials. In theory, key elements of behavior within the nonproliferation mainstream would include:

1. Treaty adherence (NPT, BTWC, CWC)
2. Adherence to internationally accepted guidelines for transfer of dual-use technologies and materials (e.g., Nuclear Suppliers Group, MTCR and Australia Group guidelines and UNSCR 1540 implementation)
3. Adherence to conventions and guidelines related to nuclear energy (e.g., safety, security and liability conventions)

An overarching objective should be for North Korea, as a nuclear weapon holder, to reduce the threat posed by nuclear weapons. These could include such unilateral steps as taken by the five nuclear weapon states (e.g., test moratorium, ending production of fissile material for weapons) as well as cooperative threat reduction measures (e.g., assistance or collaboration) to stem onward proliferation.

Practical Steps Toward Treaty and Guidelines Adherence

North Korea is not about to rejoin the NPT any time soon. However, it may be possible to persuade North Korea to adopt a declaration akin to the obligation of nuclear weapon states under Article I of the NPT: not to transfer nuclear weapons or encourage, assist or induce any non-nuclear weapon state in the manufacture, transfer, or acquisition of nuclear weapons. This is an obligation that India, Pakistan and Israel have yet to make. On the negative side, some critics could argue that it would have little meaning as a simple declaration and could help legitimize North Korea’s nuclear weapons; on the positive side, it is a small step toward North Korean acceptance of the norm of nonproliferation.

Getting North Korea just to rejoin the IAEA could be useful. North Korea withdrew from the organization in 1994, but it would be relatively simple (signing a statement about acceptance of the IAEA statute,¹) to rejoin. North Korea’s reapplication would

¹ See “Statute of the IAEA,” http://www.iaea.org/About/statute_text.html.

need to be considered by the IAEA Board of Governors and approved by the General Conference, and North Korea would need to pay its portion of the IAEA assessment (.007% of \$300M, or \$20K) but would then have access to information and, possibly, technical assistance in such areas as nuclear safety, production of medical radioisotopes, nuclear applications in agriculture, etc. The IAEA does not differentiate between NPT and non-NPT member states. To receive technical cooperation assistance, however, North Korea would need to conclude a revised supplementary agreement with the IAEA and agree to IAEA safeguards with respect to particular projects.

In the export control area, it would be desirable for North Korea to adhere to existing guidelines, not just in the nuclear area such as the Nuclear Suppliers Group, but also across the WMD spectrum – including the Missile Technology Control Regime and the Australia Group. Interim steps toward this long-term objective could include a) visit by NSG chairman in the context of outreach efforts to describe parameters of NSG adherence and/or; b) bilateral talks and/or assistance (US, China or Russia) in export control procedures. Within North Korea, given the privatization of shipping and scarce resources, there are strong incentives for the shipping industry to engage in various smuggling activities to earn a living. At the same time, regulation by the government appears to have collapsed. Assistance geared towards establishing greater accountability at ports could be helpful. This could begin with expert advice on export laws, regulations and implementation.

Advice could be provided on a bilateral basis or within the framework of UNSCR 1540 implementation. The UNSCR 1540 committee has an outreach program (1 seminar in East Asia in 2006) and states can request assistance from other states or from international organizations. First steps could be small, possibly a familiarization visit. Later steps could include help in drafting a UNSCR 1540 national implementation report for North Korea. Critics of such an approach might suggest that providing North Korea assistance in these areas is not only useless, but possibly harmful, given that UNSCR 1540 was adopted with North Korea in mind as a target state. However, there is nothing secret about UNSCR 1540 and the ability of North Korea to exert more control over illicit export activities in other areas does not improve its ability to evade detection of government-sanctioned WMD-related exports. However, such educational interactions need to be viewed in the context of bringing North Korean officials in closer contact with established "rule of law" mechanisms.² A declaration by North Korea that it supports international efforts to prevent the proliferation of weapons of mass destruction would be desirable and might not necessarily be viewed by the North Koreans as detracting from, in their eyes, their nuclear weapons holder status.

² North Korea has been a regular participant the Council for Security Cooperation in the Asia Pacific (CSCAP) WMD Study Group, which has studied 1540 in its regular meetings. See <http://www.cscap.org/index.php?page=Countering-the-proliferation-of-weapons-of-mass-destruction-in-the-Asia-Pacific> for more information.

Nuclear-Energy Related Conventions

North Korea is not currently a party to any of the wide variety of nuclear-energy related conventions. Membership in those conventions would be beneficial not just for North Korea, but for the international community. Joining such conventions could be a low-risk action for North Korea, with the potential benefit of exposing North Korea more fully to internationally accepted norms. The appendix carries a short description of four of these, related to nuclear safety and physical protection. International eagerness to get North Korean membership could be viewed by North Korea as a sign of greater flexibility in eventually accepting a peaceful North Korean nuclear program, although this should not be oversold for obvious reasons.

Other Nuclear-Related Organizations

North Korea's participation in other nuclear-related organizations, listed in the appendix, could acclimate officials to current international standards on nuclear safety, regulation and security. Given the lack of a commercial nuclear energy program, there has been no real need for (or interest by) North Korea in joining such organizations, but these are steps that could be taken in the short term with relatively little cost.

Cooperative Threat Reduction

The value of cooperative threat reduction measures is their ability to combine incentives with measures to reduce the threat. The United States does not necessarily have to be North Korea's partner here, but Russia and China could also engage in bilateral or trilateral cooperative threat reduction measures. In addition to specific projects (outlined elsewhere, like IRT conversion?) it might be useful to establish a joint working group on non-proliferation. A first step could be for the group to agree upon principles. These could include a) non-export of nuclear weapons, HEU and plutonium; b) non-export of unsafeguarded nuclear material, including yellowcake, UF₆, LEU. It would also be useful for North Korea to declare any nuclear-related exports to the IAEA as do states that have Additional Protocols (Article 2.a.(ix) (a) and (b) of INFCIRC/540). These principles could provided the basis for a declaration on nonproliferation by all Six Party members, if that process survives.

Stemming the Export of North Korean WMD-Related Goods & Services

Assuming North Korean efforts to implement real export controls will be at best incremental and minimal and at worst, simply non-existent, it will be important to make clandestine trade more difficult and costly. UNSCR 1874 provisions are helpful in three respects: they provide states with authority to interdict and confiscate North Korean shipments, they increase pressure upon flag states to direct a ship into a nearby port (although a flag state can evade this and there are no consequences for failure to do so), and they prohibit bunkering services to DPRK vessels. However, there are still some

gaps. The first is that clandestine shipments may take air or land routes. Most of the WMD transfers that have appeared in press reports indicate a preference for air transport. Some states that would need to provide overflight permissions, like India, are not PSI members (although there is one report of India denying such overflight successfully). China's willingness to implement rigorous export controls is key. China is not a member of the Proliferation Security Initiative and while it may take action under UNSCR 1874, the degree to which sensitive intelligence information is shared – one of the improvements under PSI relative to cooperation prior to 2003 -- with China is not clear.

With respect to sea shipments, the authority given to states under UNSCR 1874 to stop ships and confiscate illicit goods is useful, but acquiring proof of the illicit nature of the goods requires the ship to make a port stop to unload containers. Myanmar and Cambodia are also not PSI participants and they also operate flags of convenience. Many other states in the region similarly do not belong to PSI (e.g. Indonesia, Malaysia). The June 09 circuitous voyage of the Kang Sam may indicate that it's enough to get states to refuse port calls by North Korean ships, but we still have little information about what the ship was carrying and what its ultimate destination was. Nonetheless, this approach could definitely make it costlier for North Korea to engage in any clandestine shipping activities. In the short term, it would appear that increased, but passive surveillance is useful; in the medium term, more collaboration under PSI, particularly with respect to land and sea routes; and in the longer term, more shipboarding agreements with states in the region, which would not necessarily mean public adherence to PSI. China, however, is unlikely to conclude such shipboarding agreements with the United States. Also, expansion of PSI adherence in the region would be useful.

Reducing demand from potential recipients of North Korean WMD-related goods and services is another avenue to pursue. From the broadest perspective, this would entail getting states to adhere to the strongest nonproliferation measures (comprehensive safeguards, additional protocol, etc.), providing incentives for good nonproliferation behavior, etc. From a narrower perspective, such efforts would include making it more costly and difficult to acquire goods and services from North Korea. Identifying the range of states and non-state actors (Syria? Myanmar? Indonesia? Egypt? Other states in the Middle East?) presumably has been done. Examining routes of potential transfers is another task, followed by identifying a range of possible and desirable areas of diplomatic engagement. For example, U.S. policy toward Myanmar is heavily influenced by concern about human rights abuses. A potential area for more positive collaboration might be in climate change and renewable energy assistance.

A note on the tables below:

The first table depicts whether the measure is an incentive or disincentive, what issue areas it might affect and whether it is achievable in the short, medium, or long-term. It also notes what developments are prerequisites. The second table attempts to place the measures according to how they contribute to a particular ultimate objective and attempts to link them across time. The third table classifies the actions according to whether they are undertaken by North Korea or others and whether

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there are other measures that may not contribute to the ultimate objective, but may help move North Korea in that direction.

TABLE 1

Measure	Affecting	+ / - TERM				Prerequisite
		Short	Med.	Long		
Talks on nuclear safety	Peaceful uses of n. energy	+	?			China? India? US NRC?
Talks on radioisotope production	Peaceful uses of n. energy	+	X			Canada? US?
Convert IRT reactor for medical radioisotope production	Peaceful uses of nuclear energy	+			X	IAEA involvement?
Join World Nuclear Association	Participation in nuclear energy	+	X			Est. of private nuclear entities
Join INMM	Participation in nuclear energy	+	X			None
Join INPO	Participation in nuclear energy	+		X		Commercially operating nuclear plants
Join WINS	Nuclear facility security	+		X		None
Join Convention on Nuclear Safety	Nuclear safety	+		X		None
Join CSSPFM, Waste Management	Spent fuel, waste safety	+		X		?
Convention re: Nuclear Accident	Nuclear safety	+		X		IAEA membership
CPPNM	Physical protection	+	?			
IAEA technical cooperation	Technical nuclear assistance	+	X	X	X	IAEA membership
Convert Yongbyon into science center	Export of nuclear-related expertise	+		X	X	Measures in place to ensure assistance does not go to weapons program or proliferation
Article I-like declaration	Export of nuclear items	+	X			
Joint nonproliferation working group	Both DPRK weapons and proliferation	+	X	X	X	
Adhere to MTCR guidelines	Export of missile-related items			X		
Adhere to NSG guidelines	Export of nuclear items			X		
Chinese adherence to PSI	Export of WMD items	-		?		Chinese agreement
More shipboarding agreements	Export of WMD items	-		X		Target certain states on sea routes

TABLE 2

Ultimate Objective	Long-term (10+ years)	Medium (3-5 years)	Short-term (1-2 years)	Other steps
Rejoin NPT	Dismantle warheads Destroy or convert facilities Full-scope safeguards	Production freeze on facilities; Application of safeguards, monitoring	Testing moratorium	Declaration of Article-I like obligation by DPRK
DPRK adheres to highest physical protection standards		Join CPPNM, Global Initiative to Combat Nuclear Terrorism, International Convention on the Suppression of Acts of Nuclear Terrorism	Familiarization visits Bilateral advice Agenda item for joint nonproliferation group	Join WINS
DPRK adheres to highest safety standards		Join Convention on Nuclear Safety; CSSPFM Sign convention on nuclear accidents;	Familiarization visits Bilateral advice Agenda item for joint nonproliferation group	Observe international nuclear regulators’ association meetings Join INPO
DPRK integrates into peaceful nuclear energy	Nuclear cooperation agreements Convert IRT reactor for medical radioisotope production	Direct Foreign investment in medical radioisotope production? IAEA technical cooperation	Talks on radioisotope production	Rejoin IAEA Join INMM, other organizations
DPRK adheres to international control regime guidelines (MTCR, NSG, Australia Group)	Export law harmonization	Bilateral export control assistance	Familiarization visits, Bilateral advice Outreach by NSG chairman	
Reduce or stop NK WMD exports	More shipboarding agreements	Chinese adherence to PSI Bilateral export control assistance	Collaboration with Chinese Strengthen NSG e/r restrictions	Declaration of Article-I like obligation by DPRK UNSCR 1540 declaration

TABLE 3 S= short-term (1-2 years); M= medium-term (3-5 years); L= long term (5-10 years)

Ultimate Objective	North Korean actions	Actions by Others	Supporting Actions by All (+/-)
Cap nuclear program (SHORT-MEDIUM TERM)	<ol style="list-style-type: none"> 1. Unilateral test moratorium; 2. Unilateral freeze Pu, HEU production 3. Dismantle larger reactor sites or convert. 4. Accept IAEA sg on individual sites 	<ol style="list-style-type: none"> 1. Monitoring by CTBTO? 2. IAEA or 6-Party Monitoring? 2.a. Assist in converting Yongbyon into science center? 3. Monitoring, assistance? 4. Cooperative threat reduction measures; assist in conversion 	<ol style="list-style-type: none"> 1. Talks on nuclear security, safety, radioisotope production. 2. Joint nonproliferation working group. DPRK could consider joining WNA, INMM, rejoining IAEA? 3. Engagement on FMCT issues; DPRK could join INPO, WINS; sign conventions?
Roll back, eliminate nuclear weapons program (MEDIUM-LONG TERM)	<ol style="list-style-type: none"> 1. Dismantle warheads 2. Dismantle facilities or convert 3. Accept comprehensive IAEA safeguards + Additional Protocol 	<ol style="list-style-type: none"> 1. Monitor 2. Assist in destruction or conversion 	<ol style="list-style-type: none"> 1. DPRK signs convention on nuclear accidents 2. IAEA reapplies safeguards on some facilities 3. Convert IRT reactor for medical radioisotope production
Reduce or stop NK WMD exports	<ol style="list-style-type: none"> 1. Article I-like declaration of no onward proliferation 2. UNSCR 1540 declaration 3. Accede to International Conv. on the Suppression of Acts of Nuclear Terrorism 4. Harmonize export law with MTCR, NSG 	<ol style="list-style-type: none"> 1. Warnings about consequences of sales; interdictions; 2. Bilateral export control aid 3. Chinese adherence to PSI, or collaboration 4. More shipboarding agreements 	<ol style="list-style-type: none"> 1. Outreach by NSG chairman 2. Assistance (bilateral or intl) in UNSCR 1540 declaration 3. Other states tighten up export controls, share intelligence, etc.

A Guide to Terms and Concepts used in the Chart

Organizations

The World Nuclear Association (WNA) is a global private-sector organization that seeks to promote the peaceful worldwide use of nuclear power as a sustainable energy resource. The WNA is concerned with nuclear power generation and all aspects of the nuclear fuel cycle. The WNA supports its members by facilitating collaboration on technical, commercial and policy matters and by promoting wider public understanding of nuclear technology.

Institute of Nuclear Power Operations (INPO) is a private organization whose mission is to promote the highest levels of safety and reliability - to promote excellence - in the operation of nuclear electric generating plants. All U.S. organizations that operate commercial nuclear power plants are INPO members. Nuclear operating organizations in other countries and nuclear steam supply system, architect/engineering and construction firms are INPO participants.

The World Institute for Nuclear Security (WINS) brings together nuclear security experts, the nuclear industry, governments and international organizations to strengthen the physical protection of nuclear materials and radioactive materials and nuclear facilities.

The Institute of Nuclear Materials Management (INMM) is a non-governmental organization that was formed to encourage, the advancement of nuclear materials management in all its aspects, the promotion of research in the field of nuclear materials management, the establishment of standards, consistent with existing professional norms, and the improvement of the qualifications of those engaged in nuclear materials management and safeguards through high standards of professional ethics, education, and attainments, and the recognition of those who meet such standards.

The IAEA offers a number of technical assistance programs in nuclear safety, security and nonproliferation. However, the DPRK has withdrawn from the Agency and believes it to be a tool of the United States. Rejoining the Agency may not be possible until the six-party talks reach a satisfactory conclusion.

International Conventions

The Convention on Nuclear Safety (CNS) is aimed at legally commit participating States operating land-based nuclear power plants to maintain a high level of safety by setting international benchmarks to which States would subscribe.

The obligations of the Parties are based to a large extent on the principles contained in the IAEA Safety Fundamentals document "The Safety of Nuclear Installations". These obligations cover for instance, siting, design, construction, operation, the availability of adequate financial and human resources, the assessment and verification of safety, quality assurance and emergency preparedness

Joint Convention of the Safety of Spent Fuel Management (CSSFM) and on the Safety of Radioactive Waste Management is aimed at achieving and maintaining a high level of safety in spent fuel and radioactive waste management, ensuring that there are effective defenses against potential hazards during all stages of management of such materials, and preventing accidents with radiological consequences.

Convention in the Case of a Nuclear Accident or Radiological Emergency (CCNARE) sets out an international framework for cooperation among member states and with the International Atomic Energy Agency (IAEA) to facilitate prompt assistance and support in the event of nuclear accidents or radiological emergencies. The convention requires members to notify the IAEA of their available experts, equipment, and other materials for providing assistance. In case of a request for assistance, each member may decide for itself whether it can render the requested assistance.

The Convention of the Physical Protection of Nuclear Materials (CPPNM) establishes measures related to the prevention, detection and punishment of offenses relating to nuclear material and nuclear facilities. A Diplomatic Conference in July 2005 was convened to amend the Convention and strengthen its provisions. The amended Convention makes it legally binding for States Parties to protect nuclear facilities and material in peaceful domestic use, storage as well as transport. It also provides for expanded cooperation between and among States regarding rapid measures to locate and recover stolen or smuggled nuclear material, mitigate any radiological consequences of sabotage, and prevent and combat related offences.

Nonproliferation

The DPRK could take a number of actions to participate in the nonproliferation regime:

Join others states that have nuclear weapons in announcing a moratorium on nuclear testing and the production of plutonium and highly enriched uranium.

Work for the conclusion of a multilateral verifiable Fissile Material Cut-Off Treaty;

Ensure that the necessary steps have been taken to secure nuclear materials and technology through comprehensive export control legislation and through harmonization and adherence to Missile Technology Control Regime (MTCR) and Nuclear Suppliers Group (NSG) guidelines.

Join international efforts to prevent the proliferation of weapons of Mass destruction. Implement steps required under UNSC Resolution 1540 which requires states to “adopt and enforce appropriate effective laws” to deny weapons

of mass destruction, their components and “means of delivery” to any “nonstate actors.”

Adhere to the International Convention for the Suppression of Acts of Nuclear Terrorism, which requires States Parties to establish under national law acts involving nuclear terrorism as criminal acts and to make those offenses punishable by suitably severe penalties.

Join the Global Initiative to Combat Nuclear Terrorism, which the U.S. Department of Energy has launched a program to reduce and eventually eliminate the civil use of highly enriched uranium (HEU).

Ratify the newly amended Convention on the Physical Protection of Nuclear Material (CPPNM). (The existing convention creates obligations to provide physical protection to the export and import of nuclear materials and during international transit. The amended Convention makes it legally binding for States Parties to protect nuclear facilities and material in peaceful domestic use, storage as well as transport. It also provides for expanded cooperation between and among States to locate and recover stolen or smuggled nuclear material, mitigate any radiological consequences of sabotage, and prevent and combat related offences. The amendments will take effect once they have been ratified by two-thirds of the States Parties of the Convention.)