



CARNEGIE ENDOWMENT
for International Peace

POLICY OUTLOOK

Non-Proliferation Project

January 2006

The Urgent Need to Strengthen the Nuclear Non-Proliferation Regime

By Pierre Goldschmidt

The crisis over Iran's non-compliance with its nuclear non-proliferation obligations leads many officials and observers to conclude that the non-proliferation regime is doomed to failure. Some say that the regime worked exceptionally well for three decades, which is a great achievement, but has been eroded to the point of collapse by the tides of history. Others say that treaty-based non-proliferation was always a fool's errand, and the folly is finally being exposed.

Such pessimism is premature, dangerous, and potentially self-fulfilling. Moreover, by castigating the non-proliferation regime or inspections, the pessimists deflect attention from where the real problem lies: the weak will and short-sighted nuclear policies of the international community.

The proliferation challenge extends beyond Iran, and policies to deal with Iran should be applicable universally. The Iran case both necessitates and provides an opportunity to improve the overall non-proliferation regime.

I recommend urgent action by the United Nations (UN) Security Council to adopt a generic binding resolution that would establish three peaceful measures for containing crises when a state is found by the International Atomic Energy Agency (IAEA) to be in non-compliance with its safeguards obligations. These measures are strengthening the IAEA's authority to conduct the inspections necessary to resolve uncertainties, deterring the noncompliant state from thinking it could withdraw from the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and then enjoy the benefits of ill-gotten material and equipment, and suspending sensitive fuel-cycle-related activities in the state.

The UN Security Council can make these vital reforms without eroding state sovereignty or development. The three measures would only apply when the highly representative IAEA has found a state to be in non-compliance with its safeguards obligations. None of these measures would impede a state's right or capacity to enjoy the peaceful uses of atomic energy. None would trigger sanctions or violence. Indeed, these measures would quicken the

international community's capacity to regain confidence that a state that wandered off the peaceful nuclear path had corrected its course and would once again be a reliable neighbor and business partner.

Without Security Council action of this sort, the future of a rules-based approach for managing nuclear technology will dwindle and the prospects for sharing the benefits of peaceful nuclear energy more widely with developing countries may drop dramatically.

Safeguards Are Getting Better Just When the Political Will to Use Them Is Waning

The IAEA safeguards system is being implemented more effectively and efficiently than ever before. Traditionally, the IAEA focused on accounting for nuclear materials in a state facility-by-facility. This work was done only at declared facilities and was largely an audit. Since 1998, however, the IAEA has stepped back and developed an analytical approach that asks not simply whether the declared numbers add up, but also, "What's going on in this state's nuclear program? Is **everything** really consistent?"

At the heart of this approach is the production and periodic update of State Evaluation Reports (SERs) and of a corresponding action plan. SERs combine the results of inspections in the field and environmental swipes with analysis of open source descriptions and commentaries on programs, including satellite imagery. Reports analyze the history of all anomalies and inconsistencies recorded during previous inspections. They examine whether a state's research and development program is internally consistent, corresponds with stated purposes, and points to a commitment to use nuclear technology exclusively for peaceful purposes. The SERs analyze export and import notifications regarding relevant nuclear material and equipment, and other information available to the IAEA. Every SER also includes a section that examines the most likely diversion scenarios, such as if the state under review intended to divert nuclear material for military purposes.

Parallel with these developments, the IAEA has replaced almost all analog video cameras with digital surveillance cameras. Implementation of remote monitoring has increased from fourteen systems in 2000 to eighty-six multicamera systems in 2004.

Progress is also being made in using more advanced equipment such as ground penetration radar to improve the IAEA's ability to verify that complex facilities conform to their official design.

This more rigorous and resourceful approach to safeguards has led one knowledgeable commentator to assert that "changes in structure and practices of the Safeguards Department have been accompanied by a change in culture that is more of a revolution than evolution."¹

To be sure, there are still problems inherent in ensuring that even small amounts of nuclear material—a few kilograms among tons—are not diverted without timely warning, but the trend in the capacity of the safeguards system is positive.

Unfortunately, the international community has failed to strengthen the authority of the IAEA to exercise its improved capacity in precisely the situations where it is most necessary: when a state has been found to be in non-compliance with its safeguards undertakings.

The Case of North Korea

Soon after North Korea, formally the Democratic People's Republic of Korea (DPRK), concluded a Comprehensive Safeguards Agreement (CSA) with the IAEA in 1992, the IAEA found the country to be in non-compliance. In 1993 North Korea gave notice of its withdrawal from the NPT as permitted under Article X. Negotiations between the United States and North Korea concluded in October 1994 with an "Agreed Framework," which averted a looming military-security crisis by inducing North Korea to freeze activity of its graphite-moderated reactors and related fuel cycle facilities in exchange for a U.S. commitment to deliver two 1,000-Megawatt Light Water Reactors (LWRs) and, in the meantime, to supply annually 500,000 tons of oil to meet heating and industrial needs. As part of this deal, North Korea remained a party to the NPT and the IAEA maintained a permanent presence monitoring the agreed freeze on nuclear activities.

The Agreed Framework, however, contained two provisions that sowed the seeds of the present potentially dangerous stalemate. First, it contained a clause that was interpreted by North Korea as limiting the IAEA's inspection rights under the CSA until such time as a significant portion of the LWR project was completed. Only then would the IAEA be allowed to take all the steps deemed necessary to verify "the accuracy and completeness of the DPRK's initial report on all nuclear material in the DPRK." Such limitation was clearly inconsistent with the lessons learned in Iraq during the first Gulf War, which demonstrated that the IAEA needed greater access rights than those under the CSA and not the fewer rights embodied in the Agreed Framework.²

The second flaw of the Agreed Framework was that it allowed North Korea to retain in storage all of its spent fuel (SF) containing weapons-grade plutonium and to maintain a reprocessing facility in a state of readiness so that North Korea could restart operation at any time. Only after completion of the LWR project would these facilities have to be dismantled. The U.S. negotiators and others recognized this flaw but could not persuade North Korea to remove it.

Because of the limitations in its inspection rights,³ the IAEA was unable to confirm that North Korea's initial declaration under its CSA was correct and complete. Therefore, every year for ten years, North Korea was declared by the IAEA Board of Governors to be in non-compliance with its safeguards agreement. However no additional penalties were imposed by the international community as a result of these declarations of non-compliance.

In 2002, the United States discovered evidence that North Korea was developing an undeclared uranium enrichment program and, as a consequence, suspended the delivery of fuel oil under the Agreed Framework. In retaliation North Korea expelled the IAEA's inspectors at the end of 2002, and withdrew from the NPT in January 2003. North Korea then reprocessed 8,000 (or more) spent fuel assemblies, and declared in 2004 that it possessed nuclear weapons.

Still, there have been no tangible consequences for these actions by North Korea beyond the isolation the country already experienced. China delivered substitute fuel oil to North Korea and threatened to veto any resolution of the UN Security Council adverse to North Korea.

The six parties' talks⁴ initiated in 2003 have so far been chaotic and unproductive. As a result, three years after the IAEA inspectors were expelled from North Korea they are still not allowed to return, and North Korea, most likely, has nuclear weapons.

The Case of Iran

Looking beyond Nuclear Material

The IAEA Director General's November 2003 report to the IAEA Board of Governors stated that Iran was in breach of its obligation to comply with the provision of its safeguards agreement, and that "to date, there is no evidence that the previously undeclared nuclear material and activities...were related to a nuclear weapon programme."⁵

The Director General's November 2004 report stated: "It should be noted that the focus of Agency Safeguards Agreements and Additional Protocols is nuclear material, and that, absent some nexus to nuclear material, the Agency's legal authority to pursue the verification of possible nuclear weapons related activity is limited."⁶

The limitation of the IAEA's focus on nuclear material is a major issue that has not been properly addressed by the international community. Much more than nuclear material is needed to build a nuclear weapon. Nuclear weaponization activities not involving nuclear material can be numerous and detectable.

Under a narrow legal interpretation of the IAEA's mandate and authority, to prove that undeclared nuclear material and activities are related to a nuclear weapons program, the IAEA would have to find at least traces of nuclear material at an undeclared facility that can be associated beyond doubt to equipment, material, or activities that could **only** be relevant to manufacturing nuclear weapons or other explosive devices. Such a narrow interpretation must be rejected because it represents a sleuthing standard that IAEA inspectors would be hard-pressed to meet. As a result the international community would be made more vulnerable to proliferation.

The sensitive equipment, material, and activities involved in a nonexclusively peaceful nuclear program would most likely be located at secret military sites. Yet, it is difficult if not impossible for the IAEA to access such sites **in a timely manner** under the standard CSA and even the Additional Protocol. And the IAEA faces such imposed limitations when it gets to such sites, as experienced for instance at the Parchin site in Iran,⁷ that it is extremely unlikely that the IAEA would be able to prove that nuclear materials have been diverted to the manufacture of a nuclear explosive device. Even if such a conclusion could be drawn, it would likely be so late in the process of manufacturing nuclear weapons that it would be too late to deter the state from withdrawing from the NPT.

It is therefore essential for the IAEA to look for any **indication** that a non-nuclear-weapon state may be undertaking activities that could signal the existence of a nuclear weapons program, and to report such findings to the Board of Governors.

Remember, had Libya not admitted that its previously undeclared uranium conversion and enrichment activities were part of a nuclear weapons program, it would have been impossible for the IAEA to **prove** that this was indeed the case, even if such activities made no economic sense and could hardly be justified since Libya clearly had no need for nuclear fuel.

Enforcing Transparency

Not only must the IAEA's evidentiary lens be widened, the transparency measures for which it calls must be made enforceable.

The Director General's report of September 2, 2005, to the Board of Governors stated:

In view of the fact that the Agency is not yet in a position to clarify some important outstanding issues after two and a half years of intensive inspections and investigation, **Iran's full transparency is indispensable and overdue.** Given Iran's past concealment efforts over many years, such transparency measures should extend beyond the formal requirements of the Safeguards Agreement and Additional Protocol and include access to individuals, documentation related to procurement, dual use equipment, certain military owned workshops and research and development locations. **Without such transparency measures, the Agency's ability to reconstruct, in particular, the chronology of enrichment research and development, which is essential for the Agency to verify the correctness and completeness of the statements made by Iran, will be restricted.**⁸ (emphasis added)

In its resolution of September 24, 2005, the Board of Governors "urges Iran to implement transparency measures, as requested by the Director General in his report." **However, such requests by the Board of Governors have no legal force and effect and do not allow IAEA inspectors to obtain broader access to individuals, documents, or locations.**

Considering the stalemate in both North Korea and Iran and the risk that both states are getting closer to a nuclear weapon capability, it is clear that rather than idly watching the "crisis in proliferation," it is time for the international community to give the IAEA safeguards regime the requisite authority and empowerment to act.

Non-proliferation Regime Credibility

The discussion above and the cases of North Korea and Iran suggest that the nuclear non-proliferation regime is being questioned and threatened by the following:

- The absence of stated and automatic consequences in case a state is found in non-compliance with its Safeguards Agreement.

The main consequences that are specified under the IAEA Statute are not automatic or necessarily sufficient. Article XII A-7 of the IAEA Statute stipulates that "in the event of non-compliance and failure by the recipient State to take the requested corrective steps within a reasonable time," the IAEA has the right and responsibility "to suspend or terminate assistance and withdraw any material and equipment made available by the Agency or a member in furtherance of the project."
- The veto right of the five permanent members of the UN Security Council to block or threaten to block any UN Security Council resolution related to a state found by the IAEA to be in non-compliance.
- The belief that a state can legally withdraw from the NPT without consequences (as demonstrated so far in the case of North Korea).
- The limitations imposed on the IAEA's verification authority, even in a state found in non-compliance, which make it impossible to demonstrate whether or not previously undeclared activities were or are related to a nuclear weapon program.

None of these weaknesses is inherent to the NPT. Each can be corrected rather easily by the United Nations Security Council, with the support of its five permanent members.

What Are the Remedies?

It is unrealistic to try to amend Article X of the NPT dealing with the parties' right to withdraw from the NPT, or to eliminate the veto right of the five permanent members of the UN Security Council. Therefore, narrower, more modest measures must be developed to improve the international community's capacity to determine if and when a state is illegally seeking nuclear weapons, to limit the damage, and to buy time for diplomatic and other means to return a state to compliance with its obligations.

The single most effective, feasible way to establish the necessary measures is for the United Nations Security Council to adopt a **generic** and binding resolution that would automatically authorize three steps **if a state is found in non-compliance by the IAEA**.

- First, the IAEA's verification and inspection authority and rights would automatically be increased until such time as the IAEA has concluded that the state declaration is correct and complete and that there is no undeclared nuclear material and activity in that state. In particular, the IAEA's inspectors and experts should have immediate and unfettered "access at all times to all places and data and to any person" as foreseen in the IAEA's Statute.¹⁰
- Second, the state would be requested to conclude within sixty days of such finding of non-compliance an INFCIRC/66-type safeguards agreement for all nuclear facilities.

Although this requirement sounds dreadfully bureaucratic, it is very important. It would block a noncompliant state from withdrawing from the NPT and claiming the right to do whatever it wants with its nuclear material and equipment, as North Korea did and Iran threatens to do.¹¹

Independently, the Nuclear Supplier Group could adopt a rule whereby nuclear material and equipment would only be exported if the facilities where they are to be stored or used are covered by an INFCIRC/66-type safeguards agreement.

- Third, the right of the state found in non-compliance to undertake sensitive nuclear fuel cycle related activities would be suspended (not terminated) for a period of ten years subject to an extension of suspension by the UN Security Council by further periods of ten years.¹²

The magnitude of the threat that nuclear proliferation poses to international peace and security has already been recognized by the UN Security Council and warrants that such a moderate, generic resolution is made binding under Chapter VII of the UN Charter.

Conclusion

As can be seen, a number of concrete measures can readily be taken within the IAEA and UN framework to improve the assurance that all nuclear material and activities in a non-nuclear-weapon-state **found to be in non-compliance** are and remain exclusively for peaceful purposes.

The UN Security Council can make these vital reforms without eroding state sovereignty or development. The three measures would apply only when the highly representative IAEA has found a state to be in non-compliance with its safeguards obligations. None of these measures would impede a state's right or capacity to enjoy the peaceful uses of atomic energy. Indeed, these measures would quicken the international community's capacity to

regain confidence that a state that wandered off the peaceful nuclear path had corrected its course and would once again be a reliable neighbor and business partner. ■

Pierre Goldschmidt, former Deputy Director General of the IAEA and head of its Department of Safeguards from 1999 to June 2005, is now a visiting scholar with Carnegie Endowment for International Peace.

© 2006 CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE

The Carnegie Endowment for International Peace is a private, nonprofit organization dedicated to advancing cooperation between nations and promoting active international engagement by the United States. Founded in 1910, Carnegie is nonpartisan and dedicated to achieving practical results.

¹ Richard Hooper, “The Changing Nature of Safeguards,” *IAEA Bulletin* 45, no. 1 (June 2003).

² The U.S. negotiators knew this, but were most intent on stopping fissile material production, and North Korea wouldn’t agree to the desired inspections before it got the pay off it was seeking.

³ For example, inspectors could not access technical support buildings at sites subject to the freeze or take the necessary environmental samples.

⁴ The six parties comprise North Korea, China, Japan, The Republic of Korea, The Russian Federation, and the United States.

⁵ GOV/2003/75.

⁶ GOV/2004/83, para. 113.

⁷ In October 2004, the IAEA reiterated its previous request to visit the Parchin site, which already had been mentioned in open sources in the summer of 2002. In January 2005, out of four areas identified by the IAEA to be of potential interest, the IAEA was permitted to select only one area and had to limit to five the number of buildings to be visited. Limited access to one other area was granted to the IAEA in November 2005, giving the military plenty of time to remove any evidence of nuclear weaponization activities if any ever took place there.

⁸ GOV/2005/67, para. 50.

⁹ Iran has been found by the Board of Governors (Resolution GOV/2005/77 of September 2, 2005) to be in “non-compliance.” The board has not yet formally made the assessment that Iran has also failed to “take the requested corrective steps within a reasonable time” although the statement in GOV/2005/67 that “Iran’s full transparency is overdue” seems to support that fact. If this were to be the case the consequences for Iran could be significant.

¹⁰ IAEA Statute, Article XII.A.6.

¹¹ A CSA remains in force only for so long as the state remains party to the NPT, whereas under a INFCIRC/66-type agreement, all nuclear material supplied or produced under that agreement would remain under safeguards, even if the state withdraws from the NPT, until such time the IAEA has determined that such material is no longer subject to safeguards.

¹² The suspension could be terminated in case the state can demonstrate that an electricity-producing nuclear power plant was forced to stop operation because fuel supply contracts have not been honored for political reasons while the state is meeting all its contractual and non-proliferation undertakings, and that backup mechanisms have been ineffective to cope with the situation. This provision, backed by the UN Security Council, should help assure a state such as Iran that it could rely on international fuel supply, and would deter supplier states such as the United States, the European Union, or Russia from cutting off such supply.