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Strengthening the Non-proliferation Regime

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The main objective of the non-proliferation regime vis-à-vis non-nuclear-weapon states (NNWSs) is to detect, at an early stage, undeclared nuclear material, facilities and activities, and thereby deter states from pursuing nuclear weapons programs. To reach this goal, the verification regime cannot be limited to declared facilities or activities involving nuclear material; rather, it must go beyond “*the timely detection of diversion of significant quantities of nuclear material from peaceful activities to the manufacture of nuclear weapons...or for purposes unknown*”, mentioned in Article 28 of the model Comprehensive Safeguards Agreement (CSA)².

Member States to the International Atomic Energy Agency (IAEA) have repeatedly insisted that “*the measures to strengthen the effectiveness and improve the efficiency of the safeguards system with a view to detecting undeclared nuclear material and activities must be implemented rapidly and universally by all concerned States...*”³. However, given the present geopolitical environment and particularly considering the frustration of most NNWSs regarding the lack of progress in nuclear disarmament by the five original nuclear-weapon states, any attempt to amend the Nuclear Non-Proliferation Treaty (NPT), CSA, or the Model Additional Protocol (AP)⁴ would be doomed to fail and could prove counterproductive. It is therefore necessary to focus our attention on a number of alternative and pragmatic steps which would strengthen the effectiveness of the non-proliferation regime.

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² IAEA, “The Structure and Content of Agreements Between the Agency and States Required in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons”, June 1972, INFCIRC/153 (Corrected).

³ IAEA, “Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System and Application of the Model Additional Protocol GC(52)/RES/13, 4 October 2008, http://www.iaea.org/About/Policy/GC/GC52/GC52Resolutions/English/gc52res-13_en.pdf

⁴ This refers to the “Model Protocol Additional to the Agreement(s) between State(s) and the IAEA for the application of safeguards”, INFCIRC/540 (Corrected) approved by the IAEA BoG in 1997.

1. Actions by the IAEA

Uncovering undeclared nuclear trade activities

As far back as May 1992, the IAEA Secretariat had recommended that the Board of Governors (BoG) call on Member States to report, on a quarterly basis, all exports and imports of equipment and non-nuclear material listed in an attachment corresponding to what is today Annex II of the AP. It is very unfortunate that this universal reporting system was not endorsed by the BoG when the recommendation was made in 1992.

Indeed, among many other examples, it appears from reports to the BoG that in 1998 Iran concluded a contract with a supplier in the Russian Federation related to the delivery of equipment for laser enrichment at the undeclared AVLIS facility in Lashkar Ab'ad. It would have been useful for the Agency to be aware of these deliveries, particularly in light of *“the opinion of Agency experts that the system at Lashkar Ab'ad, as designed and reflected in the contract, would have been capable of HEU production had the entire package of equipment been delivered”*⁵.

The Secretariat, in its August 2006 Note/45, has also recommended that Member States provide information on their **past** nuclear activities. As the above example demonstrates, it is important for the Agency not only to be systematically informed, by both exporting and recipient states, of future transfers of the items listed in Annex II of the AP, but also to be informed of all such transfers that have taken place at least **since the recipient state joined the NPT**. As suggested previously⁶, the BoG should approve and publish a list of information that Member States are expected to communicate to the Agency in accordance with Article VIII.A. of the IAEA Statute⁷. In particular, as recommended by the Secretariat, the BoG should *“request all States to provide to the Agency relevant information on exports of specified equipment and non-nuclear material, procurement enquiries, export denials, and relevant information from commercial suppliers in order to improve the Agency’s ability to detect possible undeclared nuclear activities”*⁸.

For the same reason, the BoG should also request that all Member States provide, on a quarterly basis, information regarding each **import** of specified equipment and non-nuclear material listed in Annex II of the AP. Providing such information is presently not obligatory and, even under the terms of the AP, requires a specific request from the Agency to the state from which the Agency wishes to acquire such information.

⁵ GOV/2004/60-Annex-§38.

⁶ “Saving the NPT and the Nonproliferation Regime in an Era of Nuclear Renaissance”. Testimony before the House Foreign Affairs Subcommittee on Terrorism, Nonproliferation, and Trade, July 24, 2008 <http://www.carnegieendowment.org/publications/index.cfm?fa=view&id=20321&prog=zgp&proj=znpp>

⁷ Article VIII.A states that *“Each member should make available such information as would, in the judgment of the member, be helpful to the Agency”*.

⁸ IAEA Secretariat’s Note 45, August 2006.

Also, in order to help the IAEA in its efforts to identify the source and possibly the destination of illicit trafficking of nuclear material and equipment, the BoG should request all Member States to promptly provide the IAEA with access to all necessary information whenever a case of illicit trafficking of nuclear material is discovered. They should allow the Agency to immediately take swipe samples of items seized and provide full cooperation in the establishment of an IAEA database of fingerprints of all sources of nuclear material.

There are, however, reasons to doubt that the BoG, under present circumstances, will adopt such recommendations any time soon. In the meantime, and as a first step, the IAEA Director General (DG) should issue an Information Circular to all Member States drawing attention to the fact that the abovementioned information is most valuable for the Agency to fulfill its mandate and that the Secretariat would expect all Member States to provide such information on a quarterly basis under Article VIII.A. of the IAEA Statute.

Safeguards in perpetuity

One of the greatest weaknesses of the model CSA is its Article 26, which stipulates that the Agreement is to “*remain in force as long as the State is party to the Treaty on the Non-Proliferation of Nuclear Weapons*”. Nothing is said about what will happen if the state were to withdraw from the NPT.

It would be logical to forbid a withdrawing state the free use – possibly for military purposes – of material and equipment delivered while and because it was a party to the NPT. It is therefore very important to guarantee that such material and equipment remain under IAEA safeguards even if a state withdraws from the NPT or otherwise unilaterally terminates any safeguards agreement.

To address this problem, it should become a norm that at least **all sensitive nuclear fuel cycle facilities**, even in states with a CSA in force, be covered also by what is known as a “66-type” safeguards agreement which, contrary to a CSA, does not lapse if the state withdraws from the NPT. Such 66-type safeguards agreement would, by its terms, only become operative in case a state withdraws from the NPT, or if the CSA becomes inoperative for whatever reason.

The Nuclear Suppliers Group (NSG) should adopt this requirement as an export condition, starting with all material and equipment related to sensitive nuclear fuel cycle facilities. The governments of the Netherlands, Germany and Japan should lead by example, and conclude with the IAEA such 66-type safeguards agreements for their enrichment and reprocessing facilities.

The Additional Protocol

IAEA Member States have repeatedly requested all states “*that have not yet done so to promptly sign additional protocols and to bring them into force as soon as possible...*”⁹ Indeed, due to the heightened risk associated with dual-use technologies, the first step toward strengthening the verification system requires the international community to demand much more forcefully that states utilizing dual-use fuel cycle technologies bear a greater responsibility for assuring others of the peaceful nature of their nuclear programs. Such states as well as all those with significant nuclear activities which have not yet done so, should be pressed to sign and ratify the AP, and the IAEA Secretariat should name these states both in the published section of its Safeguards Implementation Report and in its Annual Report.

Acknowledging non-compliance

The failures and breaches committed by the Republic of Korea (ROK) and Egypt, which were reported to the BoG respectively in November 2004¹⁰ and February 2005¹¹, should be unequivocally recognized to constitute cases of non-compliance with their CSA which should have been reported to the United Nations Security Council (UNSC) as mandated under Article XII.C. of the IAEA Statute.

The IAEA BoG should therefore adopt a resolution requesting the Director General to transmit all reports concerning those two states to the UNSC for “information purposes only” while commending them (as appropriate) for their proactive cooperation with the Agency and for the actions taken to remedy their non-compliance, as the Board did in the case of Libya in 2004¹². To be clear, the purpose of such a report should not be to seek punitive measures or anything more than the objective of conforming to the statutory requirement. This would establish an important and correct precedent, thereby avoiding any impression that the implementation of the IAEA Statute is selective.

⁹ “Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System and Application of the Model Additional Protocol” IAEA GC(52)/RES/13, Operative paragraph 13, 4 October 2008, http://www.iaea.org/About/Policy/GC/GC52/GC52Resolutions/English/gc52res-13_en.pdf

¹⁰ GOV/2004/84.

¹¹ GOV/2005/9.

¹² In its resolution of 10 March 2004 concerning Libya, the BoG “Finds, under Article XII.C of the Statute, that the past failures to meet the requirements of the relevant Safeguards Agreement (INFCIRC/282), identified by the Director General constituted non-compliance, and, in accordance with Article XII.C, requests the Director General to report the matter to the Security Council **for information purposes only**, while **commending** the Socialist People’s Libyan Arab Jamahiriya for the actions it has taken to date, and has agreed to take, to remedy the non-compliance” (emphasis added).

Failure to adopt such a resolution would result in a dangerous precedent lowering the standards for compliance with the CSA and could seriously undermine the credibility of the safeguards regime.

Non-compliance inevitably raises suspicions that a state may be, or has been, pursuing other undeclared activities. It would be both logical and legitimate to request the non-compliant state to suspend all previously undeclared activities and to freeze, under Agency control, the use of undeclared material and equipment, until the Agency has concluded that all nuclear material and activities (past and present) have been declared.

Indeed, it is not because previously undeclared nuclear material, equipment and facilities would have been authorized if declared under a CSA that, once discovered by the Agency, they can necessarily be used freely and without further verification as if they had been duly declared. This would be like a car driver, having exceeded the speed limit, arguing with a police officer that he should not be fined or have his driving license suspended since he is now at a standstill and therefore respecting the speed limit! If there is no risk of negative consequences when one breaches the rule, then there can be no deterrence.

The BoG should make it clear that, if the Agency finds undeclared nuclear material, equipment or facilities (at whatever stage of construction), which should have been declared and placed under IAEA Safeguards, Agency inspectors will be required to promptly seal and freeze such materials and facilities. The freeze would remain in effect until the Agency is able to conclude that there are no undeclared nuclear material and activities in the state and that its declaration to the Agency is correct and complete. An IAEA Board resolution confirming such provision would be consistent with Article XII A-7 of the IAEA Statute which stipulates that “*in the event of non-compliance and failure by the recipient State to take requested corrective steps within a reasonable time,*” the IAEA has the right and responsibility “*to suspend or terminate assistance and withdraw any materials and equipment made available by the Agency or a member in furtherance of the project.*”¹³ If the state refuses to comply with this requirement the BoG should immediately report the matter to the UNSC.

A more transparent Safeguards Implementation Report

The Board should request the Secretariat to report more explicitly on borderline cases in the Safeguards Implementation Report (SIR), including the names of the states concerned, a description of the difficulties encountered in implementing its verification activities and any

¹³ 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 never formally made the assessment that Iran has also failed to “take the requested corrective steps within a reasonable time” although the Director General’s statement in September 2005 (GOV/2005/67) that “Iran’s full transparency is indispensable and overdue” seems to support that fact. However, so far, no material or equipment has been removed from Iran. Quite the contrary, Russia is delivering nuclear fuel and equipment for the Bushehr nuclear power plant.

findings that may potentially raise proliferation concerns¹⁴. Experience has shown that disclosing, in the SIR, the names of states not fully cooperating with the Secretariat has often had a positive effect. This practice should be continued and expanded.

The Board should also request that the Director General evaluate the effectiveness of State (and Regional) Systems of Accounting for and Control of Nuclear Material (SSACs or RSACs)¹⁵. Such an evaluation should focus on the level of independence of the SSAC (or RSAC) and the adequacy of its legislated authority to exercise its regulatory and control functions effectively. As a matter of priority, the Board should ask that the Director General's initial evaluations be made of SSACs in states that have previously been found in breach of their safeguards obligations.¹⁶

SSACs and RSACs are fundamental to effective implementation of safeguards agreements. For states with significant nuclear activities, SSACs must have the technical and analytical capabilities to perform the necessary controls.

Bilateral agreements transparency

Over the last couple of years, not only Russia and France, but also the United States and China, have been competing to conclude nuclear cooperation agreements worldwide.

It is clear that none of these supplier states wish to see NNWSs acquiring nuclear weapons and therefore have a common interest in making sure that this does not happen. The objective is to find a way for these nuclear supplier nations which are competing for geopolitical influence, in particular in the Middle East, to agree on measures essential to containing nuclear proliferation and to avoid using less stringent bilateral non-proliferation requirements as a tool for giving the supplier states' domestic industry a competitive advantage.¹⁷

The Director General and the Board of Governors should request all Member States, as a matter of transparency and for information purposes, to provide the Agency with the clauses

¹⁴ Such as states or facility operators delaying access to a facility or location, refusing the installation of unattended and remote monitoring systems, rejecting short notice random inspections, or the Secretariat's finding that the cumulative quantity of material unaccounted for (MUF) at a facility has been continuously increasing over the years and may reach or exceed one significant quantity of nuclear material, etc.

¹⁵ States need appropriate legislative and regulatory systems for SSACs to be established (as required under Article 7 of INFCIRC/153) in order to exercise the control functions necessary for fulfilling safeguards reporting obligations.

¹⁶ It is of paramount importance for SSACs to be independent of any other nuclear organization or company involved in nuclear activities. In most cases where a state has been found by the IAEA to be in breach of its safeguards obligations, it seems that their SSACs lacked the necessary degree of independence for properly regulating its parties.

¹⁷ In particular, the NSG safety exception should be well defined, no export should take place to a NNWS that has no Additional Protocol in force, and all sensitive fuel cycle facilities should be under legally binding IAEA safeguards that do not end if the state withdraws from the NPT.

of all their bilateral nuclear cooperation agreements dealing with nuclear non-proliferation, including safeguards and export conditions.

2. Actions by the UNSC

The timely detection of undeclared activities or diversion of declared nuclear material is useless if there are no timely and credible responses to cases of non-compliance.

Indeed, as experience has taught us, in particular in the cases of North Korea and Iran, one of the greatest difficulties in deterring states from violating their non-proliferation undertakings or from ignoring legally-binding UNSC resolutions is their hope that, for geostrategic or economic reasons, at least one of the five veto-wielding members of the UNSC will oppose the adoption of harsh sanctions.

It is therefore essential that the UNSC adopt generic resolutions dealing preventively with cases of non-compliance.

Dealing preventively with non-compliance...

Experience has demonstrated that when a state is found in non-compliance with its safeguards agreements (or in breach of its obligation to comply with its safeguards agreements, which is synonymous) and does not show full transparency and cooperation for resolving questions and inconsistencies with regard to its nuclear program (both past and present), the Agency will temporarily need expanded verification authority. This expanded authority must go beyond what is granted under the CSA and the AP. Greater authority will be necessary in these circumstances to provide **in a timely manner** an adequate level of assurance that there are no undeclared nuclear material and activities in that state, and that no previously undeclared nuclear activities have been undertaken in furtherance of any military purpose.

As mentioned in the Report of the Commission of Eminent Persons on the Future of the Agency: “The IAEA’s existing authorities should be interpreted to give the Agency the responsibility to inspect for indicators of nuclear weaponization activities”¹⁸. A fortiori in a non-compliance state, the broader access rights mentioned above must not exclude military sites, since the military (or related actors) would likely be involved in nuclear activities associated with a weapons program, should one exist. At the same time, military sites may contain sensitive information that would not be relevant to the Agency’s investigation. Therefore, the Agency’s activities on such sites may need to be conducted under “managed access” conditions that protect such information while allowing the Agency to reach its objective.

¹⁸ GOV/2008/22, page 19

To give the IAEA the verification tools it needs in cases of non-compliance¹⁹, the UNSC should consider the merits of adopting a **generic** resolution²⁰ stating, independently of any specific case, that if a state is found by the IAEA to be in non-compliance with its CSA in accordance with Article XII.C of the IAEA Statute, **upon request by the Agency**, the UNSC would automatically adopt a **specific** resolution under Chapter VII of the UN Charter requiring that state to grant the Agency extended access rights. These rights would be used to resolve outstanding issues and would be **terminated** as soon as the Agency's Secretariat and the BoG have drawn the conclusion that there are no undeclared nuclear material and activities in the state and that its declarations to the IAEA are correct and complete.

If the non-compliant state does not provide fully and immediately to the IAEA expanded access rights, the UNSC would adopt a resolution requiring the state to temporarily suspend all enrichment and reprocessing related activities as verified by the IAEA.

If the non-compliant state does not comply within 60 days with these legally binding UNSC resolutions, the Security Council would then adopt a third resolution, deciding that all states shall forthwith suspend the supply of any military equipment to, and cooperation with, the non-compliant state as long as it remains in non-compliance with UNSC resolutions²¹. This should constitute a strong disincentive for that state to defy legally binding UNSC resolutions, and would in no way impact the well-being of the people in the non-compliant state.

... and with withdrawal from the NPT

Considering the experience with North Korea, it is essential that the international community not wait for any other state to withdraw from the NPT²² (a threat officially uttered on many occasions by Iran), without taking any preventive action. Therefore, the UNSC should adopt another **generic** and legally binding resolution stating that if a state withdraws from the NPT (an undisputed right under its Article X) **after** being found by the IAEA to be in non-compliance with its safeguards undertakings, then such withdrawal constitutes a threat to international peace and security (as defined under Article 39 of the UN Charter). This generic resolution should also provide that, under these circumstances, all materials and equipment made available to such a state or resulting from the assistance provided to it under a Comprehensive Safeguards Agreement would have to be forthwith removed from that state

¹⁹ Pierre Goldschmidt, "Reinforcing Nuclear Safeguards and the Role of the IAEA", High Level Seminar on Weapons of Mass Destruction in Brussels, 17 March 2005,

<http://www.carnegieendowment.org/publications/index.cfm?fa=view&id=22328&prog=zgp&proj=znpp>

²⁰ Such as Resolution 1373 (28 September 2001) concerning acts of international terrorism and Resolution 1540 (28 April 2004) concerning the acquisition of nuclear, chemical or biological weapons and their means of delivery by non-state actors.

²¹ A draft of such a UNSC generic resolution can be found in "IAEA Safeguards: Dealing Preventively with Non-Compliance", Carnegie Endowment for International Peace, 12 July 2008, <http://www.carnegieendowment.org/publications/index.cfm?fa=view&id=20308&prog=zgp&proj=znpp>

²² Or similar actions such as denying or limiting IAEA inspectors access to facilities or locations that would impede the effective implementation of the IAEA's inspections and verifications.

under IAEA supervision and remain under Agency's Safeguards²³. And finally this resolution should require that all military cooperation with the withdrawing state be automatically suspended.

3. Conclusion

I was asked to provide, within 15 minutes, some recommendations on the ways and means to strengthen the non-proliferation regime and the IAEA verification system.

There is no doubt that the actions recommended here should be taken urgently, without waiting for the next nuclear proliferation crisis to take place. As we all know, "Where there is a will there is a way". Unfortunately, beyond rhetorical statements, there appears to be no will.

It is too easy to find pretexts for not placing dismantled nuclear warheads irreversibly under IAEA control, for not signing and ratifying the Comprehensive Test Ban Treaty or the Additional Protocol, not strengthening the verification authority of the IAEA in non-compliant states, or blocking UNSC resolutions that could deter NNWSs from developing a nuclear weapon capability. Using these pretexts for blocking urgently needed measures to strengthen the non-proliferation regime is irresponsible. A credible non-proliferation regime is too important for being used as a bargaining tool in international relations.

Now that the Nuclear Suppliers Group has lost its credibility by accepting the arbitrary "Indian exception", and while we are waiting for the next President here or there, or for our neighbors to disarm, illicit trade and trafficking in nuclear material, dual-use equipment and most likely nuclear weapons blueprints are burgeoning worldwide. In the meantime, the world is slowly but surely becoming a more dangerous place to live.

²³ As already mentioned, this is by no means a new concept (cf. Article XII A-7 of the IAEA Statute).