

### Preserving the Non-Proliferation Treaty

Next year's Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) will mark the passage of a decade since the treaty was extended indefinitely—as part of a package of decisions on a strengthened review process, principles and objectives for nuclear non-proliferation and disarmament, and a resolution on the Middle East which, *inter alia*, urged the establishment of a nuclear-weapon-free zone. Next year will also mark five years since the 2000 NPT Review Conference came to a historic agreement on 'practical steps' for nuclear disarmament.

Some have questioned the wisdom of indefinitely extending the NPT in 1995, given the rise of new challenges both from within the treaty membership and from those outside it. The expectations of systematic and progressive efforts for nuclear disarmament clearly have not been met. Proliferation concerns have arisen regarding the nature of the nuclear programmes in some NPT states.

It is clear that the NPT regime is facing new challenges that threaten its authority and integrity. The final session of the Preparatory Committee for the 2005 NPT Review Conference, held in April-May this year, failed to agree on any substantive recommendations or even on an agenda for next year's conference.

Thus, the 2005 NPT Review Conference faces a number of formidable tasks: finding ways to improve the implementation of the treaty; and negotiating an agreed approach towards measures that could shore up the NPT regime. This 'Special Comment' addresses some of these challenges.

#### *The Non-Proliferation Treaty and its security benefits*

While the events of the past few years have placed the NPT regime under stress and exposed some of its limitations, it is important to emphasize that the treaty remains the *essential anchor* for global nuclear non-proliferation and nuclear disarmament. Without the NPT, there would not exist the obligation that non-nuclear-weapon states (NNWS) party to the NPT place the entirety of their nuclear programmes under International Atomic Energy Agency (IAEA) safeguards. And, it is *only* in the context of the NPT that the five recognized nuclear-weapon states (NWS) are legally bound to pursue and achieve nuclear disarmament.

The NPT contains a triangular linkage: verified nuclear non-proliferation; cooperation in peaceful uses of nuclear energy; and nuclear disarmament. Without this linkage, there would have been no agreement on an NPT in 1968—and it is hard to envision any new international non-proliferation compact that would not inherently contain such a linkage.

For the vast majority of NNWS, the NPT provides real security benefits—in that they are assured, with the help of safeguards administered by the IAEA, that their neighbours are not misusing nuclear energy for weapon purposes. Without this system of safeguards, the number of states with nuclear weapons would not likely have remained in the single digits. Moreover, the resulting security assurance provides the basis for global commerce in and use of peaceful nuclear applications ranging from nuclear medicine to crop production to electricity supply. Only three states remain outside the treaty; all other states have accepted the treaty with its rights and obligations.

### *Post-Cold War adjustments and changes*

In recent years, it has become clear that nuclear technology and know-how is no longer confined to relatively few countries; that clandestine nuclear programmes have been conducted within the framework of NPT membership; and, most recently, that an illicit international network has been operating with some capability to supply nuclear equipment, expertise and material. However, before turning to these problems and considering possible solutions, it should be considered that these trends have occurred over two or more decades, and it is important to understand some of the adjustments in the international scene that have taken place during that period.

During the Cold War, global security depended heavily on a nuclear standoff—a balance of terror, if you will—between two broad alliances, NATO and the Warsaw Treaty Organization. As alliance leaders, both the Soviet Union and the United States protected and managed their respective spheres of influence, and were able to minimize the number of nations acquiring nuclear weapons. The near-miss of the 1962 Cuban missile crisis led to a process of ‘nuclear learning’, whereby the two superpowers sought to avoid nuclear crises and set about establishing a common strategic language and process of nuclear arms control.

In the aftermath of the break-up of the Soviet Union and the end of the Cold War, some regional conflicts and tensions that had been kept in check erupted to the fore. Rather than the much heralded emergence of a ‘new world order’, this has resulted in a sort of ‘new world instability’, characterized by civil wars, asymmetric conflicts, religious and ethnic tensions that cut across national boundaries, and more visible terrorist activity by sub-state or inter-state groups.

Nuclear weapons are largely ineffective in such conflicts, even in terms of any deterrent effect; yet the Cold War legacy remains. Some thirty NNWS, through their membership in alliances, continue

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to rely upon nuclear weapons for security. The five NPT NWS continue to retain large numbers of nuclear weapons—some 30,000 by last count—failing to recognize that their possession of nuclear arsenals and delivery mechanisms, not to mention modernization or use scenarios, serves as a powerful example for emulation by those states that perceive serious security threats.

The international security landscape has changed dramatically. But rather than trying to understand these changes and adapting to address the new threats, the disturbing trend has been away from reliance on a global security system and multilateral treaties to more ad hoc, self-help initiatives. Previously negotiated treaties have been cast aside, work on new treaties has been stalled, and the linkage between non-proliferation and security has been weakened.

Against this backdrop of insecurity and instability, perhaps we should not be surprised that it is in the areas facing security deficits—the Korean Peninsula, the Middle East and South Asia—that we find

states that have either already developed or are suspected of having nuclear-weapon ambitions. It is also in these same regions that the problems of compliance with global arms control treaties are the most severe.

The twin crises of compliance with NPT obligations—namely, the engagement of some NNWS in undeclared nuclear activities, coupled with the failure of the NWS to take concrete, verifiable and irreversible steps to eliminate their nuclear arsenals—have led in turn to a crisis of confidence in the NPT regime.

The solution is not to wish for a return to the oppressive Cold War stand-off of ‘Mutually Assured Destruction’, but to work towards an equitable system that will provide for the security of all. Despite any appearances to the contrary, this is an achievable goal—but only if it is rooted in rule-based multilateralism.

### *Lessons from recent cases*

Since the early 1990s, four undeclared nuclear programmes—in Iraq, Iran, Libya and North Korea—have come to light. At the IAEA, we have learned a number of valuable lessons from our recent experience in verifying these undeclared nuclear programmes.

Perhaps the most important lesson is that verification and diplomacy, used together, can work. The Iraq experience demonstrated that inspections, while requiring time and effort, can be effective even when the country being inspected is less than cooperative. All the evidence indicates that Iraq’s nuclear-weapons programme had been effectively dismantled through IAEA inspections in the 1990s, as we were nearly ready to conclude before the war. Inspections in Iran over the past year and a half have also been key in uncovering a nuclear programme that had remained hidden since the 1980s.

One of the most disturbing lessons to emerge from our work in Iran and Libya lies in the relative ease with which A.Q. Khan and his associates were able to set up and operate a multinational illicit market network for nuclear items. Nuclear components designed in one country could be manufactured in another, shipped through a third, and assembled in a fourth for use in a fifth. The fact that so many companies and individuals could be involved is extremely worrying, and demonstrates the inadequacy of the present export control system.

### *Nuclear non-proliferation initiatives for the twenty-first century*

In a modern society characterized by electronic information exchange, interlinked financial systems and global trade, the control of access to nuclear-weapons technology has grown increasingly difficult. The technical barriers to designing weapons and to mastering the essential processing steps have eroded with time. Much of the hardware in question is ‘dual use’, and the sheer diversity of technology has made it much more difficult to control or even track procurement and sales.

In 1970, the assumption was that relatively few countries had the know-how to develop nuclear weapons. Now, with this knowledge spreading (thirty-five to forty countries, by some estimates), the margin of security under the current non-proliferation regime is becoming too close for comfort. In this context, it is not hard to see the need to find new approaches.

Common sense and recent experience make clear that the NPT, which has served us well for over three decades, must be supplemented with new measures to fit these twenty-first century realities.

There is no fix-all solution, but I find it encouraging that both governments and members of civil society are beginning to come forward with ideas on how to move forward. In my view, the series of proposals that follow could do much to strengthen the existing nuclear non-proliferation treaty regime.

*Tighter controls must be put in place over the export of nuclear material and technology.* The current system relies on informal arrangements that are not only non-binding, but also limited in

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membership, and do not include many countries with growing industrial capacity. Moreover, some members fail to control the exports of companies unaffiliated with government enterprise. The nuclear export control system should be universalized and treaty-based—while preserving the inalienable rights of all states to peaceful nuclear technology, as noted in Article IV of the NPT.

In addition, the actions of individuals and companies that seek to assist others in nuclear proliferation should be criminalized.

In parallel, *nuclear inspectors must be empowered.* Much effort was recently expended—and rightly so—in persuading Iran and Libya to give the IAEA broader rights of inspection, by accepting the provisions of the Additional Protocol to safeguards agreements. But the Agency should have the right to conduct such inspections in all countries. Verification of NPT and nuclear-weapon-free zone treaty obligations requires more stringent measures, but to date, only sixty-one states are implementing additional protocols allowing broader IAEA inspection rights.

It is time to consider *limits on the processing of weapon-usable material (separated plutonium and high-enriched uranium) in civilian nuclear programmes, as well as the production of new material through reprocessing and enrichment,* by agreeing to restrict these operations under multilateral controls. These limitations would need to be accompanied by proper rules of transparency and, above all, by a reliable assurance that legitimate would-be users could get their supplies.

*Multilateral approaches should also be considered for the management and disposal of spent fuel and radioactive waste.* More than fifty countries have spent fuel stored in temporary sites, awaiting reprocessing or disposal. Not all countries have the right geology to store waste underground and, for many countries with small nuclear programmes for electricity generation or for research, the costs of such a facility are prohibitive. Considerable advantages—in cost, safety, security and non-proliferation—would be gained from international cooperation in these stages of the nuclear fuel cycle. I am encouraged that the Russian Federation has recently expressed interest in a collective disposal initiative, and has agreed to work with the Agency in giving consideration to its feasibility.

I have recently appointed an international group of experts to analyse these two issues—as well as other, related proposals—and I hope to have their recommendations in hand by early next year, in advance of the NPT Review Conference.

*Nuclear energy systems should be deployed that, by design, avoid the use of materials that may be applied directly to making nuclear weapons.* These systems should have built-in features that would prevent countries diverting material to weapons production; prevent the misuse of the facilities and equipment for clandestine manufacture of such materials; and facilitate efficient oversight to ensure continued peaceful use. This is not a futuristic dream; much of the technology for proliferation-resistant nuclear-energy systems has already been developed or is actively being researched. In addition, existing facilities around the world that use high-enriched uranium (HEU) applications—for example, to produce medical radioisotopes—should continue, gradually but irreversibly, to be converted to low-enriched processes.

*Global stocks of HEU should be eliminated.* Most of the thousands of tonnes of HEU produced during the Cold War is located in the states with nuclear weapons, while smaller quantities are in use in

NNWS in research reactors. The use of HEU globally should be phased out. All existing HEU should be down-blended to low-enriched uranium for use in civilian reactors to generate electricity, and all HEU should be placed under the highest standards of physical protection.

*The international community should 'turn off the tap', for all countries, for the production of new material for nuclear weapons.* This year will mark the eleventh anniversary of a historic United Nations resolution calling for a verified ban on the production of fissile material for weapons use—the Fissile Material (Cut-off) Treaty—but negotiation on such a treaty has yet to commence. This treaty could cap the production of weapon-usable fissile material, and serve as a starting point for further future nuclear arms reductions.

*No country should be allowed to withdraw from the NPT without clear consequences.* The treaty now allows any member to do so with three months notice. This provision of the treaty should be curtailed; at a minimum, notice of NPT withdrawal should prompt an automatic review by the United Nations Security Council. Furthermore, any NPT state found to be in non-compliance should first resolve all outstanding compliance questions in order to benefit from the treaty.

*Whatever the framework for these initiatives, the discussion should be inclusive.* NWS, NNWS and even those outside the current non-proliferation regime should all have a seat at the nuclear non-proliferation/nuclear-disarmament table. The security concerns of all parties should be heard, and the aim should be a new security structure that does not depend on nuclear deterrence. We can only hope to make meaningful progress if we seek a comprehensive solution that addresses the security concerns of all.

As a starting point, we must recognize that the current crisis of international insecurity will not be resolved by anything short of a functional system of collective security, as clearly hoped for in the United Nations Charter. The Security Council must be able and ready to engage effectively in both preventive diplomacy and enforcement measures, with the tools and methods in place necessary to cope with existing and emerging threats to international peace and security.

The earlier we focus on collective security reform, the earlier we can move forward towards agreement on strengthening the Non-Proliferation Treaty and towards a concrete programme for verified, irreversible nuclear disarmament, complete with a timetable. Such a course of action could be achieved in the context of a protocol to the present NPT. Once in force, this new framework should be regarded as a 'peremptory norm' of international law—in short, it should be enduring and permanent.

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## **Conclusions**

We cannot conclude the unfinished business of the Cold War until we adjust our concepts of security accordingly. This requires moving from a security system based on nuclear deterrence and alliances to one based on cooperation and human solidarity. Failure to achieve success in this endeavour is at our peril.

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