

The Next 40 Years

For four decades, the IAEA has played a crucial role in nuclear non-proliferation. Now foundations are being laid for the future.

Four decades have elapsed since the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) was opened for signature in July 1968. Since then, the NPT has become the world's most adhered to multilateral nuclear non-proliferation, arms control and disarmament treaty. The International Atomic Energy Agency (IAEA), in which the States Party to the NPT and all nuclear-weapon-free zone treaties have vested the requisite verification authority, passed its fifty-year mark in 2007. Together, these treaties and the IAEA are the most important components of the nuclear non-proliferation regime and serve as vital tools for the safe and secure use of nuclear energy for peaceful purposes.

The NPT consists of three equally important pillars — nuclear non-proliferation; peaceful nuclear cooperation; and nuclear disarmament — and the premise that progress in any one pillar strengthens the integrity of the whole.

The activities of the IAEA are also based on three pillars. Through its work on nuclear verification, nuclear safety and security, and nuclear technology, the IAEA continues to play a key role as a catalyst for sustainable development and as a cornerstone for nuclear safety and security and verification of nuclear non-proliferation.

Verification of Nuclear Non-Proliferation Commitments

The 2000 NPT Review Conference Final Document recognized that IAEA safeguards are a fundamental pillar of the nuclear non-proliferation regime, play an indispensable role in the implementation of the Treaty and help to create an environment conducive to nuclear confidence, cooperation and disarmament. The NPT Parties also reaffirmed that the IAEA is the sole competent authority responsible for verifying and assuring, in accordance with its Statute and the IAEA's safeguards system, compliance with States' obligations under Article III.I of the Treaty. The 2000 NPT Conference also expressed its conviction that nothing should be done to undermine the authority of the IAEA in this regard.

Comprehensive Safeguards Agreements

There still remain 30 NPT States without the required safeguards agreements in force. Out of these 30 States, 11 have already signed Comprehensive Safeguards Agreements (CSAs) (yet to be brought into force), five have a CSA approved by the Board (still to be signed), and 14 States have still to initiate negotiations with the IAEA.

Current Safeguards System

Under NPT safeguards agreements, the IAEA has the right and the obligation to ensure that all nuclear material in all peaceful nuclear activities of the State is subject to safeguards.

The IAEA's obligation is thus not limited to nuclear material actually declared by a State; it also extends to that which is required to be declared. However, given the limitations of the verification tools provided to the IAEA by CSAs, in practice it is only in respect of States which have both a CSA and an additional protocol in force that the IAEA will be able to provide credible assurance not only of the non-diversion of declared nuclear material, but also of the absence of undeclared nuclear material and activities. As the additional protocol is a crucially important tool for effective verification by the IAEA of compliance with non-proliferation obligations, adherence by all States is essential. Since May 2007, seven States have concluded additional protocols and nine have brought additional protocols into force — bringing the total to 125 States with additional protocols concluded and 88 with additional protocols in force. Among these, four of the five nuclear-weapon States have brought their additional protocols into force.

Concluding additional protocols and bringing them into force at the earliest possible date will enable the IAEA to discharge its safeguards responsibilities in a more comprehensive manner. In order to facilitate this process, since the 2007 PrepCom, the IAEA has organized outreach events on strengthened safeguards in Gaborone, Geneva, Hanoi, New York, Santo Domingo, Sydney and Vienna.

Another major focus of such outreach was the amendment of small quantities protocols (SQPs) to CSAs with a view to facilitating the implementation of the IAEA Board of Governors' September 2005 decisions on SQPs which would allow for the application of more safeguards measures in States with limited nuclear activities. As of August 2008, there were 99 States with SQPs to their safeguards agreements. Of these, 27 had accepted the revised SQP text either by amending their existing SQP or by signing a CSA with an SQP based on the new standardized text. Moreover, two States have so far rescinded their non-operational SQPs.

Financing of the safeguards system

Effective implementation of safeguards is also dependent on the availability of the necessary financial resources. The IAEA currently safeguards nearly 950 facilities in more than 70 countries on a regular safeguards budget of approximately 110 million euros per year.

It is clear that if the IAEA is to continue providing credible verification assurances, and strengthening its safeguards system, the complexity of its verification mission must be matched by the required resources.

Safeguards Implementation

The Secretariat's findings and conclusions, which are based upon an evaluation of all the information available to the IAEA in exercising its rights and fulfilling its obligations, are published annually in the Safeguards Implementation Report. The report for 2007 covers 82 States that have both CSAs and additional protocols in force; 72 States with CSAs in force, but without additional protocols; four out of five NPT nuclear-weapon-States with voluntary offer safeguards agreements; and three States that have concluded item-specific safeguards agreements.

Nuclear Safety and Security

The IAEA's activities in the field of nuclear safety are organized in three broad programmes: nuclear installation safety; nuclear safety coordination; and radiation and waste safety.

Safety and security are primarily national responsibilities but failure can have far reaching consequences beyond national borders. In 2007, the nuclear industry continued to demonstrate a high level of safety and security worldwide. There was a strong consensus on the need for maintaining continuing vigilance in both areas. With renewed interest in nuclear power generation, comparable attention and commitment must be given to an equally

ambitious enhancement of global safety and security, including adequate planning for sustainable safety infrastructure.

The threat of nuclear terrorism continues as a matter of concern to the international community. In response, an international nuclear security framework has emerged through the development and approval of a series of legally binding and non-binding international instruments. However, progress on entry into force of these instruments, particularly the Amendment to the Convention on the Physical Protection of Nuclear Material, remains slow.

New impetus to this process is expected by the progress achieved by bringing into force the International Convention for the Suppression of Acts of Nuclear Terrorism in 2007.

Ensuring the Nuclear Security of Major Public Events

The IAEA continued to assist States in ensuring nuclear security at major public events, and established projects with the governments of Brazil and China for the 2007 Pan American Games and the 2008 Olympic Games, respectively. The IAEA's cooperation included supplying radiation detection equipment, providing up-to-date information, and conducting national workshops and training programmes.

Illicit Nuclear Trafficking

In November 2007, the IAEA's International Conference on Illicit Nuclear Trafficking held in the UK, reviewed the global experience in combating illicit trafficking and considered international measures on prevention, detection and response. The conference concluded that illicit nuclear trafficking remained an international concern, and that efforts must continue to establish effective systems, technical and administrative, to control movement of nuclear and other radioactive materials, and to prevent and detect their uncontrolled and unauthorized movement.

Established in 1995, the IAEA Illicit Trafficking Database programme now benefits from the voluntary participation of nearly 100 States. As of April 2008, ITDB Participating States had reported or otherwise confirmed 1,416 incidents including 322 incidents involving the seizure of nuclear material or radioactive sources.

4th Review Meeting of the Convention on Nuclear Safety

Nuclear safety officials from all the world's nuclear power countries convened in Vienna on 14 April to

review the state of nuclear safety worldwide. The Convention on Nuclear Safety (CNS) aims to promote nuclear safety, safety culture, safety management and knowledge sharing among current and future nuclear power States. As of June 2008, there are 65 signatories to the Convention and 61 Contracting Parties. Notably, all countries with operating nuclear power plants are now parties to the Convention.

Technical Cooperation

The 2000 Final Document called for an expanded use of the IAEA's technical cooperation programme. For more than four decades, this programme develops human capacity and supports the building of infrastructure to ensure the use of nuclear technology in a safe, secure and peaceful manner.

The overall resources of the TC programme reached around \$100 million in 2007, for projects in 122 countries. One hundred and sixty training courses were arranged for 2287 participants, 3546 expert missions were organized, 1661 fellows and scientific visitors were trained, and \$47 million worth of equipment and supplies were provided.

Nuclear Technology

The IAEA's activities in nuclear technology range from the generation of electricity in nuclear power plants, to the eradication of pests through irradiation, the use of isotopic techniques in nutrition and water development programmes and food irradiation.

To date, the use of nuclear power has been concentrated in industrialized countries. In terms of new construction, however, the pattern is different; 17 of the 35 reactors now being built are in developing countries, and most of the recent expansion has been centred in Asia and Eastern Europe. But it is not only these two regions where we are witnessing a resurgence of interest in nuclear power. A number of countries, e.g., in the Middle East, are seriously considering the introduction of nuclear power programmes. And a large number of countries with existing nuclear programmes are working to expand their nuclear generation capacity either by new reactors or by extending the lifetime of existing ones. It is vital that the expected increase in the use of nuclear power is managed properly, taking into account all economic, safety, security and non-proliferation requirements.

It is, of course, for States to decide how to respond to the challenges posed by the growth in the use of nuclear energy, especially the questions associated


with the fuel cycle. So far, 12 proposals have been made to the IAEA Secretariat on different ways of assuring supply of nuclear fuel. The proposals cover a broad spectrum, from establishing an IAEA-controlled last resort reserve of low enriched uranium to providing backup assurance of supply and setting up international uranium enrichment centres.

Conclusion

For fifty years the IAEA has worked to bring the benefits of nuclear technology to humankind, while minimizing its risks. It is well known that during the past decade the cornerstone of the non-proliferation regime — the NPT — has been beset by concerns about compliance with the provisions of the Treaty and growing tension between its non-proliferation and disarmament related aspects. However, nuclear non-proliferation and disarmament are mutually reinforcing, and the IAEA will be well positioned for the advancement of both and ready to contribute to strengthening the regime during this crucial time.

Although the IAEA's primary role is the verification of the non-proliferation commitments of States under the NPT and nuclear-weapon-free zone treaties, its Statute provides for a possible role in assisting States in the verification of nuclear disarmament.

Indeed the IAEA Statute directs the IAEA to conduct its activities "in conformity with policies of the United Nations furthering the establishment of safeguarded worldwide disarmament".

Safety and security both require continued vigilance and should always be considered as works in progress. For example, gaps exist today in the coverage of international conventions and codes of conduct and in the development and application of the normative infrastructure. And the number of countries that have subscribed to the international instruments needs to increase. These gaps need to be filled as a matter of high priority. As the expectations and demands of States for the increased uses of nuclear energy increase, so will the need for the IAEA to help promote more effective and integrated approaches towards enhancing nuclear safety and security. 

This article is taken from an official IAEA statement delivered at the NPT Preparatory Committee meeting held in Geneva, Switzerland, on 28 April 2008. For a full version of the statement, please visit www.iaea.org.