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Statement to the

## Fifty-Fourth Session of the United Nations General Assembly

By IAEA Director General Dr. Mohamed ElBaradei



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MR. PRESIDENT,

The Annual Report of the International Atomic Energy Agency for 1998 describes the Agency's major achievements in fulfilling its mandate during the year. I will describe some of these achievements and also identify some of the challenges and opportunities that lie ahead.



Mr. President,

I would like to begin with the Agency's work in the area of verification. IAEA safeguards constitute an indispensable component of international efforts to prevent the proliferation of nuclear weapons and move towards nuclear disarmament. During the year, the focus of our work has been on strengthening the safeguards system. In 1998, the Agency began implementation of measures contained in the 'Additional Protocol to safeguards agreements' in States where the Protocol is already in force. These measures are designed to provide the Agency with greater access to information and sites so it can verify that no *declared* nuclear material has been diverted to non-peaceful uses and also provide assurances that there is no *undeclared* material or activities. Work has also continued on developing a system which integrates traditional nuclear material verification activities with new strengthening measures, including those from the Additional Protocol. This system, which will enhance the effectiveness and efficiency of safeguards, will be gradually introduced starting next year. It should enable the Agency to provide enhanced assurance to the international community that States that have comprehensive safeguards agreements and Additional Protocols are using nuclear material exclusively for peaceful purposes.

The number of States that have not concluded safeguards agreements with the IAEA, despite their obligation to do so under various treaties, remains a matter of concern. Over the past year, the Agency has continued to remind these States of their obligation. With a view to next year's Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), I urge, in particular, the 52 NPT States without safeguards agreements in force to conclude and/or bring such agreements into force without further delay. The full potential of the strengthened safeguards system can be realized only through universal adherence to the Additional Protocol and that, in turn, depends on all relevant safeguards agreements being in force.

I am pleased that in the past year, 13 Additional Protocols have been approved by the Agency's Board of Governors, including four this past September. This brings the total of Additional Protocols approved to 45. Nonetheless, this number falls short of expectations. States have consistently stressed the importance of the strengthened safeguards system and universal adherence to the Additional Protocol to enhance the credibility of the non-proliferation regime. I thus appeal to all States that have not yet done so to conclude Additional Protocols at the earliest possible date.

The Agency is implementing a programme to assist Member States in establishing and maintaining a system to protect nuclear and radioactive material from being used in any unlawful activities and in combating illicit trafficking in these materials. I have also convened an expert meeting for later this month to discuss the possibility of strengthening the Convention on the Physical Protection of Nuclear Material.

Mr. President,

It is some ten months since the Agency's last inspection in Iraq under the relevant Security Council resolutions. One year ago we were cautiously optimistic that the Agency would be able to proceed with the full implementation of its monitoring and verification plan. This has not happened. The Security Council continues to search for modalities to resume verification activities in Iraq. At present, however, the Agency cannot provide any measure of assurance regarding Iraq's compliance with its obligations under the said resolutions. I should, however,

emphasize that the Agency continues to be ready to resume its activities in Iraq at short notice.

The situation in the Democratic People's Republic of Korea (DPRK) remains unchanged. The Agency is still unable to verify that all nuclear material subject to safeguards in the DPRK has been declared to it. We continue to monitor the "freeze" on the DPRK's graphite-moderated reactors and related facilities, as requested by the Security Council, but the measure of co-operation we receive continues to be limited. And, despite twelve rounds of technical discussions, there is still no progress on important issues such as the preservation of relevant information which would enable the Agency to verify the DPRK's inventory of nuclear material subject to safeguards. As I have indicated before, without this information it will be difficult in the future, if not impossible, to verify the DPRK's compliance with its NPT safeguards agreement. It is my hope that the DPRK would be in a position soon to normalize its relations with the IAEA and also expand the level of its co-operation. This is in the interest of both the DPRK and the international community.

The Agency's safeguards system is only one part of the overall non-proliferation regime. Although the effectiveness of safeguards is critical in this regime, other mutually reinforcing elements must also be at work. These include effective export control, adequate physical protection of nuclear material and facilities, accelerated steps towards nuclear disarmament and appropriate arrangements for global and regional security.

One of the new opportunities facing the Agency is in the area of nuclear arms control and reduction. I would like to report that the IAEA has continued its work on a joint initiative with the Russian Federation and the United States. The initiative focuses on Agency verification that fissile material removed from weapons programmes of the two States remains irreversibly in non-military activities. Work continued during the year on the development of a proposed prototype inspection system that might allow Agency inspectors to carry out their verification duties without having access to classified weapons information. Work on the drafting of a model verification agreement is also progressing.

The Conference on Disarmament continued its discussion during the year on issues relating to the negotiation of a treaty to ban the production of fissile material for nuclear weapons or other nuclear explosives. In line with an earlier United Nations General Assembly resolution, I have indicated to the President of the Conference the Agency's readiness to assist in developing the verification system for such a treaty. At the request of a number of States, the Secretariat has been providing expert advice and information on its experience in relevant areas.

It is obvious that verification in the area of nuclear arms control and reduction will pose a challenge for the Agency in terms of resource requirements. To this end, I presented to our Board of Governors earlier this year some possible options for financing Agency verification of such future measures. The report focused on the principles that could govern such funding and the different possible mechanisms, which include the establishment of a nuclear arms control and reduction fund based on assessed contributions. I emphasized in my report that whatever the financial arrangements agreed upon, they should ensure reliable and predictable funding. It is a statutory responsibility and a long standing tradition for the Agency to accept all verification requests, and we should continue to be able to do so.

Mr. President,

I turn now to the Agency's work in the area of nuclear technology. Our mandate here is clear - to maximize the ability of Member States to make full use of this technology for their economic and social development.

With regard to nuclear power, I should mention two issues that are of current concern. One, is the need to meet increasing energy demands, particularly for electricity, and the other, is the need to mitigate greenhouse gas emissions as agreed under the Kyoto Protocol to the United Nations Framework Convention on Climate Change. Nuclear power is one of the few energy options that can address the two concerns, namely, provide large scale electricity without greenhouse gas emissions.

At the end of 1998, over four hundred nuclear power reactors in more than thirty countries were producing about 16% of world electricity. Sixteen countries relied on nuclear power for 25% or more of their electricity supply. The choice of nuclear power and of a particular energy mix is necessarily a country specific decision that takes into account the country's respective circumstances, needs and priorities. States should, however, be able to make that decision on

the basis of up to date and complete information. In this context and in co-operation with eight other international organizations, the Agency has continued its programme to assist Member States in developing their capacity for decision-making in the energy sector. With specialized databases and methodologies, States can now conduct comparative evaluations of available energy options, taking into account environmental, economic and risk factors throughout the fuel cycle. Currently, over ninety countries are using these tools. We are also contributing to the work of the Intergovernmental Panel on Climate Change and working with other organizations to prepare for discussions on energy by the United Nations Commission on Sustainable Development in 2001. Our aim is to see that nuclear power is given a full and fair hearing in this important forum.

A key factor for national governments in reaching decisions about the potential use of nuclear power will be their ability to assess the viability of advanced technologies. The Agency has an interregional technical co-operation project that is bringing together technology suppliers and prospective end-users for the development of integrated nuclear desalination programmes. In Morocco, the Agency has assisted in the preparatory work for a small nuclear reactor for desalination purposes. And, the Republic of Korea is inviting Member States to participate in its design of the System-integrated Modular Advanced Reactor (SMART). Another example of the potential use of advanced nuclear technology is provided by South Africa, where the Agency is currently assisting in carrying out a feasibility study and a safety review of a new design for a prototype pebble bed reactor.

I should note that despite its environmental advantage, nuclear power today is at a standstill in Western Europe and North America, though it continues to expand in a few rapidly developing countries in Asia and in parts of Eastern Europe. In my view, a resurgence of nuclear power depends on action on three crucial fronts: namely, further improvements in economic competitiveness; continued improvement in the global safety record, including waste management; and the restoration of public confidence.

The Agency's activities relating to nuclear technology extend well beyond nuclear power and its fuel cycle to cover many non-power applications. The Agency holds some 400 technical meetings on various topics in nuclear science and technology annually. It also operates its own research and service laboratories and co-ordinates research and information exchange in the many uses of nuclear techniques and radioisotopes to increase food production and protect the environment, fight disease and manage water resources. Our technical co-operation programme, which amounted to some \$80 million in 1998, assists our Member States to ensure the appropriate and efficient use of nuclear techniques within their national development strategies through training, expert advice and equipment procurement. To illustrate the range of our work, I will mention briefly just a few of the examples where nuclear techniques are making a difference.

Let me start with agriculture. The Agency is currently assisting several countries in the Middle East in studies on fertigation — the application of fertilizers through drip irrigation. The benefits of this technique include increased crop yields and more efficient use of water.

In Belarus, over one million hectares of prime agricultural land was contaminated after the Chernobyl accident in 1986. The Agency's technical co-operation projects have been instrumental in ensuring that rapeseed now cultivated in the area can be safely used for cooking oil and lubricants. The projects aim at accelerated decontamination of the land, the return of farmers to their land and the creation of jobs. The [Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture](#) is providing the technical backstopping for this assistance.

Human health is an area where nuclear techniques are becoming increasingly important. Let me quote just one example here. Neonatal thyroid deficiency, which can lead to mental retardation and stunted growth, is a curable illness if detected immediately after birth. During the last ten years, the IAEA has been assisting health authorities in a number of countries in introducing appropriate technology for neonatal screening programmes. Using technology introduced by the Agency, Thailand is expected to test all of its newborns (1.2 million infants per year) by the year 2002. In Latin America, over 3 million newborns per year are being screened under programmes initiated by the Agency.

Freshwater scarcity is a problem that could affect two thirds of the world's population by the year 2025. An Agency sponsored project, implemented jointly by Peru and Bolivia, uses isotope techniques and geochemical tools in helping the authorities to accurately measure the water recharges of Lake Titicaca. Knowledge of the inflow and outflow of the lake's water is crucial for

the effective management of water resources in the two countries. The project will enable both Peru and Bolivia to take scientifically based decisions regarding the amounts of water available for human consumption, irrigation, and industrial use. Another regional project, involving Egypt, Ethiopia, Morocco and Senegal, has helped the countries concerned in mapping, evaluating and managing groundwater resources with the overall objective of providing drinking water for their populations on a sustainable basis. Working within the framework of the HABITAT/UNEP Joint Initiative on Water for African Cities, the IAEA will provide technical support in using isotope techniques, together with non-nuclear techniques, to help develop urban water management policies.

Mr. President,

I now turn to the issue of nuclear safety. A demonstrated global record of safety in all activities throughout the nuclear fuel cycle is a key to public confidence in nuclear power. In recent years, since the Chernobyl accident, the global safety record for nuclear power plants has shown general improvement. However, continuous efforts are required to ensure that the technical and human requirements of safety culture are maintained at the highest possible level. The accident a few weeks ago at the Tokaimura Nuclear Fuel Conversion Facility in Japan is a case in point. It is an illustration of the fact that accidents can occur if the required level of vigilance is not sustained. With regard to that accident, the Agency was in early contact with the Japanese authorities to offer assistance and to transmit information to the international community as it became available. A team of IAEA nuclear safety specialists undertook a mission to Japan last month to ascertain the facts relating to the accident. Its report will be issued shortly. The team also discussed with the Japanese authorities the possibility of a more comprehensive review of the accident. Such reviews have proven in the past to be a useful means of allowing other countries to learn from incidents that have occurred.

Safety is a national responsibility. But we learned the hard way after Chernobyl that international co-operation on all safety-related matters is indispensable. Over the past year, the Agency has continued to contribute to the development of an effective worldwide safety regime. This regime comprises: international conventions that prescribe the fundamental legal norms for the safe use of nuclear energy; internationally accepted safety standards; and, measures to assist States in implementing these conventions and standards.

The First Review Meeting of the Convention on Nuclear Safety, held earlier this year, demonstrated the strong commitment of Contracting Parties to achieve and maintain a high level of safety at all nuclear installations. The meeting highlighted, inter alia, the fact that legislative frameworks are well established in most countries and that operational feedback systems are in place. Contracting Parties to the Convention took note of many factors which could have a significant impact on nuclear safety if not counterbalanced by appropriate actions. Such factors include deregulation of electricity markets and lack of sufficient economic resources. Several Contracting Parties have taken action to meet the challenges posed by such factors.

One safety concern that I wish to call attention to is the threat to public health arising from so-called 'orphan' radioactive sources. These are radiation sources that are not under the control of national authorities. During the year under review, IAEA experts were sent to check the radiological impact of such sources found in Georgia, Peru and Turkey, and to provide assistance in taking the necessary protective measures. I am pleased to report that the IAEA General Conference last month adopted an Action Plan on the safety of radiation sources and security of material, which details what the IAEA response should be.

Another concern regards the safety of research reactors. More than 600 research reactors have been built; of these, 344 have been shut down, though only 106 have been decommissioned. The Agency is focusing on upgrading regulatory infrastructures and providing safety reviews and advisory services to assist States confronting issues such as ageing and decommissioning.

A major issue in the debate over the use of nuclear technologies is the safety of the management of spent fuel and of radioactive waste. An Agency sponsored international symposium recently confirmed the view that technologies exist for the safe, environmentally sound and cost-effective management of radioactive wastes. The opinion of experts is that high level waste and spent fuel can be safely isolated in certain types of deep geological repositories. However, a number of States are now opting for long-term storage of waste in order not to foreclose future options. To this end, research is under way on the feasibility of disposing of waste in a manner that is reversible, so that the waste can be retrieved in the future if so decided. Research also continues on technologies to reduce the quantities and radioactivity of high level

waste. In my view, only when final high level waste repositories are built will the public start to perceive and accept that the waste issue has been resolved. This would be a substantial achievement in the forthcoming years. The Agency has been assisting Member States in the management of spent fuel and radioactive waste through the development of safety standards, technology transfer and advisory missions.

Finally, on the question of safety, I wish to report that over the past year, the Agency has acted as a focal point in assisting Member States to adequately address the Y2K issue in respect of nuclear facilities as well as medical facilities that use radiation sources. I urge all States to make every effort to ensure that these facilities are Y2K compliant.

Mr. President,

It is clear from the above review of the Agency's activities that our agenda is growing. In a continuing environment of zero real growth budgets, the challenge is how to close the gap between priorities and affordability.

We have in the past year advanced on several fronts in our efforts to improve the planning, implementation and evaluation of our activities. A draft Medium Term Strategy has been prepared, outlining the Agency's goals and objectives for the five year period 2001 to 2005 and the means proposed to meet these objectives. Formulation of the programme and budget, which will be based on the objectives set out in the Medium Term Strategy, will follow a structured process for assessing Member State needs and priorities, and will identify expected results and set performance indicators. Effective implementation will be coordinated within the Secretariat and be results based. It will be complemented by a strengthened evaluation process to ascertain the extent to which our goals have been attained, and to build on lessons learned.

I would like to stress the importance we are giving to reaching out to both traditional and new partners. Effective interaction with Member States, international organizations, private sector, civil society and the public is fundamental to the Agency's ability to maintain broad support in delivering its programme. In June, I approved a new public information and outreach policy intended to enhance this interaction. Part of this effort will focus on establishing a dialogue with the nuclear, development, and the arms control communities. The strategy should help the international community to assess objectively the value of the various utilizations of nuclear science and technology.

I should also mention that one of the outcomes of this year's General Conference session was the reaching of agreement — after many years of discussion — on an amendment to the Agency's Statute, which would have the effect, when it enters into force, of expanding the membership of the Board of Governors from 35 to 43 Member States, in order to take account of the increase in the number of developing countries in the Agency's membership.

Mr. President,

In conclusion, let me repeat that the Annual Report before you describes in detail the work of the Agency in 1998, outlines progress and identifies work that remains to be done. I am very pleased to be able to report that at the Agency's General Conference which concluded last month, *consensus* was reached on all issues discussed by our Member States. I hope, as we look to the new millennium, we will together be guided by the understanding that only through international co-operation and mutual accommodation can we make progress in regard to some of the most pressing issues facing us: fighting poverty; maintaining and enhancing peace and security; and protecting our environment. These are all issues to which the IAEA contributes and is fully committed.

Finally, I wish to express my appreciation to the Government of Austria, our generous and gracious host.