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Statements of the Director General

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IAEA Board of Governors

Introductory Statement to the Board of Governors by IAEA Director General Dr. Mohamed ElBaradei

Our agenda for this meeting covers a broad range of issues, once again touching on all three Agency pillars — technology, safety and verification. I will discuss a number of topics related to each of these pillars.

Nuclear Technology

Nuclear Power

You have before you the draft Nuclear Technology Review – Update 2005. For nuclear power, the current picture is one of rising expectations. Near term projections released in 2004 by both the IAEA and the OECD International Energy Agency are different from those of four years ago. The IAEA's low projection — based on the most conservative assumptions — predicts 427 gigawatts of global nuclear capacity in 2020, the equivalent of 127 more 1000 megawatt nuclear plants than IAEA projections made in 2000.

This change of projection is rooted in specific plans and actions in a number of countries to expand nuclear power. The new expectations regarding nuclear power, particularly over the longer term, have also been strengthened because of the entry into force of the Kyoto Protocol. In the past, the virtual absence of restrictions or taxes on greenhouse gas emissions has meant that nuclear power's advantage — of low emissions — has had no tangible economic value. The widespread, coordinated emission restrictions of the Kyoto Protocol will likely change that over the longer term.

China plans to raise its total installed nuclear electricity generating capacity from the current 6.5 gigawatts to between 32 and 40 gigawatts by 2020. India is proposing a ten-fold increase in its nuclear capacity by 2022. The Russian Federation plans to raise its nuclear capacity from the current 22 gigawatts to 40–45 gigawatts by 2020, and France and Finland have more moderate plans to expand their nuclear capacity in the coming years. New nuclear power plants still remain most attractive where energy demand growth is rapid, alternative resources are scarce, energy supply security is a priority or nuclear power is important for reducing air pollution and greenhouse gas emissions.

An increasing number of developing countries are requesting the Agency's assistance with energy assessments, to evaluate their energy needs and the relative suitability of various energy generation options. In many cases — despite the acute needs for energy that are central to these countries' development — the prospects for using nuclear energy have been hampered because the large size of nuclear plants makes them unsuitable for lower capacity electricity grids. For this reason, the Agency has maintained a focus on the potential for innovative small and medium sized reactor designs, and a few projects are moving towards implementation. The Republic of Korea has decided to construct by 2008 a one-fifth-scale demonstration plant of the 330 megawatt SMART pressurized water reactor. South Africa recently approved initial funding for developing a demonstration unit of the 110 megawatt gas cooled Pebble Bed Modular Reactor (PBMR), due to be commissioned around 2010.

Next month, in cooperation with the OECD Nuclear Energy Agency, the IAEA will organize a conference in Paris, hosted by the French Government, on the future of nuclear power. The conference will examine the expansion of world energy demands in relation to resources, consider the environmental challenges of the coming century, and focus on the driving factors for energy strategies and choices, contrasting nuclear power with other energy sources.

Human Health

In the area of human health, the use of short lived radionuclides in nuclear medicine techniques is helping clinicians to examine metabolic processes in patients. The early detection of metabolism changes can provide a better basis for medical or surgical intervention — thus optimizing the management of cancers, heart disease and other illnesses. The Agency has also progressed in planning our Programme of Action for Cancer Therapy (PACT),

under which we hope to mobilize additional resources to assist Member States in enhancing their capacity to deliver radiotherapy.

Sustainable Farmland Management and Water Use Efficiency

The increasing demand for food worldwide has placed enormous pressure on the sustainability of farmland and water resources. This has prompted Agency efforts to identify and develop crops that use soil and water nutrients efficiently and are adaptable to harsh environments. On the broader scale of ecosystem management, nuclear techniques are being explored to diagnose and better manage farming practices, using isotopic tracers to evaluate, for example: the influence of water irrigation on fertilizer use; and the efficient re-use of agricultural waste waters as a source of water and nutrients.

Use of Radiation in Nanotechnology

Nanotechnology is one of the fastest growing areas in science and engineering, with implications for advances in human health, food production, energy utilization and many other technologies. The ability to fabricate precision structures with nanometer dimensions is a key to using this technology. The use of radiation based technologies — such as X rays, electron beams and ion beams — is emerging as an effective tool, for example in the precision treatment of controlled release drug delivery systems; or in synthesizing nanoparticles for use in photoelectric and solar cells.

The overall objective of the Agency's work in these areas of nuclear technology, as defined in the Medium Term Strategy, is to be able to provide Member States the best technical and scientific support as they develop their nuclear capacity and infrastructure, so that these nuclear applications can be of tangible benefit in improving the quality of life.

Nuclear Safety and Security

The Nuclear Safety Review for the Year 2004, which you have before you, provides an overview of current and emerging nuclear safety trends and issues. Nuclear power plant safety, as well as radiation, waste and transport safety in both power and non-power nuclear activities, has continued to show strong performance worldwide. However, challenges remain — including the avoidance of complacency, the need to maintain the necessary safety infrastructure and regulatory oversight, the management of equipment ageing issues during longer term nuclear power plant operation and the need to ensure an appropriate safety focus at research reactors. An area of emerging Agency emphasis is the adaptation of existing safety regimes to reactors of new design.

Occupational radiation protection performance, as assessed through key indicators, continued to improve in 2004. Seventy countries are now committed to work towards following the guidance contained in the Code of Conduct on the Safety and Security of Radioactive Sources. International initiatives by the Agency and others are continuing to help Member States strengthen their controls over radioactive sources.

The safety record for the transport of radioactive material continues to be excellent, although difficulties are still encountered in the transport of such material, including medical radioisotopes. I should also mention that the International Expert Group on Nuclear Liability (INLEX), which met earlier this month, has made good progress in its work on mechanisms to address potential gaps and ambiguities in the existing international nuclear liability regime.

Convention on the Physical Protection of Nuclear Material

In response to the request by a majority of the States Parties to the Convention on the Physical Protection of Nuclear Material, I have convened a diplomatic conference to be held in July to consider and adopt the proposed amendments — which would extend the scope of the Convention to cover, inter alia: the physical protection of nuclear material used for peaceful purposes, in domestic use, storage and transport; and the physical protection of nuclear material and peaceful nuclear facilities against sabotage. A meeting to prepare for this conference is scheduled for early April.

Nuclear Verification

Status of Safeguards Agreements and Additional Protocols

Nuclear non-proliferation continues to present a number of challenges. One such challenge is the continuing failure of some countries to fulfil their legal obligations to conclude and bring into force safeguards agreements; and slow progress on the conclusion and entry into force of additional protocols. I am pleased to report, since the last meeting of the Board, the entry into force of comprehensive safeguards agreements with Cameroon,

Tajikistan and the United Republic of Tanzania, and additional protocols with Nicaragua, Switzerland, Tajikistan and Tanzania. The Board also has before it comprehensive safeguards agreements for Marshall Islands, Palau and Turkmenistan, and additional protocols for Afghanistan, Marshall Islands, Palau, Senegal, Tunisia and Turkmenistan. When approved, these protocols would bring the total number of States with additional protocols approved to 102.

Despite these welcome developments, there remain 39 States party to the NPT that have not yet fulfilled their Article III obligation to bring into force comprehensive safeguards agreements with the Agency, and more than 100 States that do not have additional protocols in force. I do hope that the 2005 NPT Review Conference, in May, will further encourage these States to conclude and bring into force their respective safeguards agreements and additional protocols.

Small Quantities Protocols

I have frequently made clear that the effectiveness of Agency safeguards is to a great extent a function of the Agency's authority to verify a State's nuclear activities. To that end the additional protocol, which confers on the Agency greater rights of access to relevant information and locations, has been of great help to Agency safeguards activities.

In the meantime, the Secretariat has recently drawn Member States' attention to a remaining weakness in the safeguards system, namely, the problems posed by "Small Quantities Protocols" to comprehensive safeguards agreements. We have begun informal consultations with States on this issue and intend to report to the Board on the results of these consultations, and propose possible remedies.

ISIS Re-engineering Project

As you know, the Secretariat has been re-engineering the IAEA Safeguards Information System (ISIS), to improve the effectiveness and efficiency of our information analysis, and to reduce the risk of failure of our antiquated safeguards computer system — much of which is more than 20 years old. The re-engineering project is moving into its implementation phase, and — while I am grateful to the USA and the United Kingdom for their generous support of the project thus far — it is clear that additional funding will still be required. I would appeal to other States to lend their financial support to this important effort.

Implementation of Safeguards in the Democratic People's Republic of Korea

The nuclear activities of the Democratic People's Republic of Korea (DPRK), which continue to be outside international verification, remain a serious challenge to the nuclear non-proliferation regime. Since 31 December 2002, when at the request of the DPRK the Agency's verification activities were terminated, the Agency has been unable to draw any conclusions regarding the DPRK's nuclear activities. The recent declaration by the DPRK that it possesses nuclear weapons is a matter of the utmost concern and has serious security implications, and highlights yet again the importance and the urgency of finding a diplomatic solution through dialogue. The Agency stands ready to work with the DPRK — and with all others — towards a solution that addresses both the security needs of the DPRK and the needs of the international community to ensure that all nuclear activities in the DPRK are exclusively for peaceful purposes.

Implementation of Safeguards in the Islamic Republic of Iran

Last November, the Secretariat provided to the Board a comprehensive report on the Agency's verification of Iran's compliance with its NPT safeguards obligations and its voluntary suspension of enrichment and reprocessing related activities. Since that report, Iran has facilitated Agency access under its safeguards agreement and additional protocol to nuclear material and facilities, and has also provided access to other locations in the country, including a transparency visit to a military site. We have continued to implement the measures of the additional protocol by reviewing declarations made by Iran and conducting complementary access and other verification activities. The Agency has also continued its verification of Iran's voluntary suspension of enrichment and reprocessing related activities. The Agency has been making progress in two important issues, regarding the origin of the contamination on equipment at various locations in Iran in cooperation with the country concerned, and regarding follow-up on information provided by Iran on its centrifuge programmes. The Deputy Director General for Safeguards will provide more details on our verification activities in Iran. As the Agency continues to work towards completing its assessment of all outstanding issues related to Iran's nuclear programme, I would encourage Iran to provide full transparency with respect to all of its nuclear activities, by providing in full detail and in a prompt manner all information that could shed light on some of the outstanding issues. In some cases, the receipt of information is still pending, which in turn delays our work. As I mentioned at the last Board meeting, in view of the past undeclared nature of significant aspects of Iran's nuclear programme, a confidence deficit has been created, and it is therefore essential that Iran works closely

with the Agency in a proactive manner in order for us to build the necessary confidence and achieve the required degree of assurance.

Implementation of Safeguards in the Arab Republic of Egypt

You have before you a report on the implementation of the NPT safeguards agreement in the Arab Republic of Egypt. The Agency has identified a number of reporting failures on Egypt's part related to certain nuclear material and facilities. The report notes that only small amounts of nuclear material were involved in the R&D activities concerned, and that Egyptian scientists had discussed these matters openly in the published scientific literature.

Nevertheless, these failures by Egypt to report nuclear material and facilities to the Agency in a timely manner are a matter of concern. Egypt has taken corrective action to provide the required reports to the Agency, and has indicated that it will report any such material and activity in future. I will continue to keep the Board informed of these matters as appropriate.

In this context, I would request all governments to pay close attention to their reporting obligations, and treat them with the seriousness they deserve.

NPT Review Conference

In May, the NPT Review Conference will have an opportunity to review the efficacy of the Treaty. In light of recent developments — particularly the dissemination of nuclear technology and the growing interest of extremist groups in acquiring nuclear and radiological material — it is my hope that the parties to the Treaty will make a start towards defining specific courses of action that will strengthen the non-proliferation regime and accelerate the nuclear arms control and disarmament process.

To that end, last year I convened a group of experts to study various options for establishing multilateral control or oversight over proliferation sensitive parts of the nuclear fuel cycle — specifically, those related to the enrichment of uranium, the separation of plutonium, and the disposition of spent fuel. Last week, the group submitted its report (INFCIRC/640), in which it identifies a number of approaches for further consideration. I will await your views and that of the NPT Review Conference on the group's recommendations before proceeding further.

Medium Term Strategy

You have before you a report on the Agency's Medium Term Strategy (MTS) for 2006–2011 — a document that reflects a successful process of interaction between the Secretariat and the working group established by the Board for this purpose, and ably chaired by Ambassador Jenkins of the United Kingdom. The lessons learned over the past five years, as well as the changes in the Agency's environment and associated evolution in priorities, have been taken into account in the formulation of this new MTS. The strategy should serve as an important tool for guiding the development of the Agency's programme and budget proposals; and it should enable the Agency to respond dynamically to changing times and circumstances.

TC Contributions

This is our first experience with the new technical cooperation (TC) system of national participation costs (NPCs). I am pleased to be able to say that out of 85 countries having to pay their NPCs for new TC projects, 51 have given at least their minimum contributions — enabling us to begin implementing new projects in these countries without delay. However, some Member States are experiencing difficulties in payments: 24 Member States have made a partial payment or have committed to pay in the near future, while the remaining 10 have not made any formal commitment, or have said that they can only pay later in the year.

We have been contacting each of these States to seek solutions that will enable them to make their payments. However, in the interim the new TC projects in those States cannot be implemented. As things now stand, this will result in a lower rate of implementation for this year's TC programme. Since we are aware that, in some States, delays in payments are due to national financial regulations (for example, budget scheduling requirements), we will make every effort to inform Member States well in advance of their NPC obligations for following years.

Conclusion

The recent report of the UN Secretary-General's High-level Panel on Threats, Challenges and Change had this to say about the Agency: "As the institutional embodiment of the Treaty on the Non-Proliferation of Nuclear

Weapons and of considerable long-term success in preventing widespread proliferation of nuclear weapons, the International Atomic Energy Agency — with its regular budget of less than \$275 million — stands out as an extraordinary bargain." In my view, this is equally valid in terms of our activities in nuclear safety and nuclear technology transfer. The fact that we are held in such esteem is a testament to both the work of the Secretariat and naturally the support we receive from you. I am grateful for that support, and trust that it will continue.