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Plenary

Record of the First Plenary Meeting

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Temporary President: Mr. RAJASA (Indonesia)

President: Mr. TAKASU (Japan)

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Abbreviations used in this record:

| | |
|-------------------------------|--|
| AFRA | African Regional Co-operative Agreement for Research, Development and Training Related to Nuclear Science and Technology |
| Agreed Framework | Agreed Framework between the United States of America and the Democratic People's Republic of Korea |
| Assistance Convention | Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency |
| CPPNM | Convention on the Physical Protection of Nuclear Material |
| CRP | Co-ordinated research project |
| CTBT | Comprehensive Nuclear-Test-Ban Treaty |
| DPRK | Democratic People's Republic of Korea |
| Early Notification Convention | Convention on Early Notification of a Nuclear Accident |
| Euratom | European Atomic Energy Community |
| Europol | European Police Office |
| FAO | Food and Agriculture Organization of the United Nations |
| G-8 | Group of Eight [= G-7+1] |
| INPRO | International Project on Innovative Nuclear Reactors and Fuel Cycles |
| Interpol | International Criminal Police Organization |
| IPPAS | International Physical Protection Advisory Service |
| KEDO | Korean Peninsula Energy Development Organization |
| NPT | Treaty on the Non-Proliferation of Nuclear Weapons |
| NPT Review Conference | Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons |
| OECD/NEA | Nuclear Energy Agency of the Organisation for Economic Co-operation and Development |
| PWR | Pressurized water reactor |
| R&D | Research and development |
| SAGSI | Standing Advisory Group on Safeguards Implementation |
| SIR | Safeguards Implementation Report |
| SIT | Sterile insect technique |
| TCF | Technical Co-operation Fund |
| TranSAS | Transport Safety Appraisal Service |

Abbreviations used in this record: (continued)

| | |
|---------|---|
| UNICEF | United Nations Children's Fund |
| UNMOVIC | United Nations Monitoring, Verification and Inspection Commission |
| UNU | United Nations University |
| WHO | World Health Organization |
| WMDs | Weapons of mass destruction |
| WNU | World Nuclear University |

- **Opening of the session**

1. The TEMPORARY PRESIDENT declared open the forty-seventh regular session of the General Conference.
2. In accordance with Rule 48 of the Rules of Procedure of the General Conference, he invited delegates to observe one minute of silence dedicated to prayer or meditation, including in their thoughts the victims of the bombing of the United Nations headquarters in Baghdad on 19 August 2003.

All present rose and stood in silence for one minute.

At the invitation of the Director General, a short performance to mark the opening of the session was given by the Men's Choir of the Moscow Engineering and Physics Institute.

3. The TEMPORARY PRESIDENT said that a substantial amount of important work had been done by the Agency since the forty-sixth regular session of the General Conference. In particular, many Member States had been assisted in formulating international co-operative projects for peaceful uses of nuclear energy and in developing effective programmes aimed at improving their scientific, technological and regulatory capabilities on the basis of their top-priority needs. Technical co-operation, the backbone of the Agency's mission to promote the peaceful uses of nuclear energy, had been a success, contributing to the development of nuclear technology for peaceful purposes in many areas, especially in developing countries.
4. His country, which foresaw that it would not be able to remain dependent solely on the usual fuels for power generation, attached great importance to its nuclear programme as a means of meeting its projected demand for power generation capacity. In that connection, it also attached great importance to the role of the Agency in supporting the transfer of nuclear science and technology and promoting nuclear safety, and also as a cornerstone of nuclear non-proliferation.
5. The Agency had done a great deal during the previous 12 months in the safeguards and nuclear security fields, and it was to be commended on the conclusion in the Safeguards Implementation Report for 2002 that in the 145 States with safeguards agreements in force the nuclear material and other items placed under safeguards had during 2002 remained in peaceful nuclear activities or been otherwise adequately accounted for. However, there was a need for further efforts in those fields, particularly in order to prevent terrorist and other criminal acts.
6. It was to be hoped that the Agency would continue to upgrade nuclear safety around the world, further strengthen the nuclear non-proliferation regime and extend its application, establish a strengthened nuclear security framework, continue assessing the role of nuclear power in sustainable development and continue promoting peaceful applications of nuclear techniques. In doing those things, the Agency would need concerted international support.

1. Election of officers and appointment of the General Committee

7. The TEMPORARY PRESIDENT invited nominations for the office of President of the Conference.

8. Mr. GARCIA (Philippines), speaking on behalf of the Far East Group, proposed Mr. Takasu (Japan) for that position.

9. Mr. Takasu (Japan) was elected President by acclamation.

10. The TEMPORARY PRESIDENT congratulated Mr. Takasu on his election and wished him every success in his task.

Mr. Takasu (Japan) took the Chair.

11. The PRESIDENT, expressing gratitude to all those who had supported his candidacy, said that Japan, as a firm supporter of the Agency since its establishment, had consistently demonstrated strong commitment to its wide-ranging activities. He would do his utmost to live up to the high standards set by the previous President, Mr. Rajasa, whose advice he had greatly appreciated.

12. Fifty years after President Eisenhower's "Atoms for Peace" declaration, nuclear technology offered significant benefits and potential not only for power generation but also for sustainable development in a world where there was a great deal of concern about matters such as climate change and safe drinking water scarcity. The Agency was to be applauded for its role in promoting the peaceful uses of nuclear technology, which his country hoped would continue contributing to human security.

13. Over the past year, the Agency had been in the public spotlight as it confronted a number of serious challenges to the international nuclear non-proliferation regime, and the importance of the Agency as an independent and credible verification body had increased significantly. The international nuclear non-proliferation regime was under growing stress, and the need to enforce it in a number of key respects was becoming increasingly urgent. Efforts to strengthen the Agency's safeguards system were central in that connection.

14. The Agency had done much to promote nuclear safety and create a nuclear safety culture worldwide, and events since September 2001 had highlighted the importance of the Agency's activities also in the area of nuclear security.

15. His task, as President of the General Conference, was not only to preside but also to help ensure the success of the current session, and he thanked delegates in advance for their support. The Conference's provisional agenda contained several important items relating to nuclear technology, verification, safety and security, and he was sure that all delegations would work together in making the Agency stronger and more effective in seeking - as the Statute said - "to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world".

16. Inviting the Conference to continue with the election of officers and appointment of the General Committee, he recalled that, pursuant to Rules 34 and 40 of the Rules of Procedure, the Conference normally elected eight Vice-Presidents, the Chairman of the Committee of the Whole and five additional members of the General Committee - resulting in a General Committee of 15 members. At

the current session, however, the General Committee would be composed of 16 members - the President of the Conference, the Chairman of the Committee of the Whole, seven Vice-Presidents and seven additional members - since the President of the Conference and the envisaged Chairman of the Committee of the Whole came from the same region - a region which customarily had only one representative on the General Committee. That would involve the suspension of Rules 34 and 40 of the Rules of Procedure, which had been done in comparable situations previously.

17. He proposed: that the delegates of Algeria, Canada, Chile, France, Kuwait, Malaysia and the Russian Federation be elected as Vice-Presidents; that Mr. Garcia (Philippines) be elected as Chairman of the Committee of the Whole; and that the delegates of Colombia, the Czech Republic, Germany, Pakistan, Sweden, the United States of America and Zimbabwe be elected as additional members of the General Committee.

18. The President's proposals were accepted.

19. The PRESIDENT further proposed that item 2 of the provisional agenda, "Applications for membership of the Agency", be deleted since there were no new applications and that, in order to save time, the General Conference deal with items 3, 4 and 6 pending receipt of the General Committee's recommendation on the provisional agenda.

20. The President's proposals were accepted.

3. Message from the Secretary-General of the United Nations

21. Mr. ABE (Under-Secretary-General for Disarmament Affairs) read out the following message:

"I am pleased to send my greetings to the forth-seventh General Conference of the International Atomic Energy Agency. Some fifty years after the "Atoms for Peace" initiative, the IAEA's work in promoting the peaceful use of nuclear technologies and verifying compliance with solemn safeguards obligations is more important than ever.

"The Director General, Mr. Mohamed ElBaradei, and the staff of the Agency have brought great professionalism and purpose to their work in what has been a challenging year, especially with respect to Iraq. I support the Agency's continuing efforts to strengthen international safeguards - in particular, to promote conclusion of additional protocols by Iran and other States, and to encourage other countries to conclude safeguards agreements with the Agency. I call for the early resumption of the Agency's safeguards activities in the Democratic People's Republic of Korea. I share with many the hope that we will see new progress in achieving adherence to comprehensive safeguards by all States, including in the Middle East and South Asia. I also share the conviction of many that efforts in the field of nuclear non-proliferation must be complemented by progress in the field of nuclear disarmament - an issue in which the Agency has an abiding interest.

"Progress in all these areas would greatly reduce the threat of nuclear terrorism, as would fresh successes with regard to the safety and security of nuclear installations and to the fight against illegal trafficking in nuclear materials and radiation sources - other areas where the Agency is active.

"The international community is rightly endeavouring to prevent potentially dangerous uses of nuclear technologies, but these technologies nevertheless remain a powerful force for economic

development. The IAEA's activities in protecting public health and the environment and promoting food production and sustainable development are particularly crucial.

"I look forward to continuing to work with the Agency in the cause of peace and sustainable development. I wish you fruitful discussions."

4. Statement by the Director General

22. The DIRECTOR GENERAL said that the past year had been a time of significant challenges and achievements for the Agency. In the area of verification, the Agency had been at the centre of attention and had again demonstrated its ability to perform objective and credible safeguards, but it was still facing a number of difficult unresolved situations. In the area of safety and security, there had been an overall improvement and the Agency's work was making a difference, but much remained to be done.

23. In the technology area, the Agency was contributing to sustainable development through its technical co-operation programme. The benefits of nuclear applications were being increasingly recognized, but more partnerships were needed in order to optimize the use of the valuable technologies in question. Nuclear power continued to hold great potential as a clean source of energy, but it remained in a holding position owing to a number of associated concerns.

24. The contribution of nuclear power to world electricity production had been stable, remaining at about 16% for the past few years. The world electricity market had been growing continuously during that period - at an average rate of 2.8% a year - and the growth in nuclear electricity generation had kept pace. Six new power reactors had been connected to the grid in 2002, offsetting the retirement of four reactors during the year. The increased production had been complemented by further increases in the on-line availability of nuclear power plants as a result of better operational and outage management practices.

25. There were currently 33 power reactors under construction, 20 of them in the Far East and South Asia. In other regions, the more immediate focus was on power upgrades, restarts of previously shutdown reactors, and licence extensions. Sixteen reactors in the United States of America had had their operating licences extended to 60 years, and many extension applications were under review. The Russian Federation and a number of other countries were also embarking on licence extension programmes. The Agency engaged in a range of activities designed to assist interested Member States with various aspects of licence extension, including outage optimization strategies, outage performance indicators, predictive maintenance, the modification of technical specifications, and ageing management.

26. However, the medium-term projections for nuclear power were uncertain. Most studies predicted that nuclear power generation would continue to increase in the near term, but Agency and other projections showed the nuclear share of global electricity production falling to about 12% by 2030. According to a recent study by the Massachusetts Institute of Technology, even if nuclear power was only to maintain its current share of the world electricity market, that would require the construction of 700 new 1000 MW reactors by the year 2050 - nearly double the present nuclear capacity.

27. But any major increase in the number of power reactors would require the nuclear community to meet a number of challenges: achieving advances in innovative and evolutionary technology; meeting

concerns about waste, proliferation, safety and security; and demonstrating new nuclear energy applications outside the electricity sector, such as hydrogen production and seawater desalination. He would briefly mention a number of Agency activities relevant to those challenges.

28. Some 20 Member States were currently involved in national and international projects for the development of evolutionary and innovative reactor and fuel cycle designs, including accelerator-driven systems. Also, a number of countries were exploring the use of nuclear reactors for the co-generation of hydrogen, which could make a substantial contribution to meeting demands for cleaner energy in the transportation sector, and Agency co-ordinated research projects (CRPs) were exploring technological options for hydrogen production using high-temperature gas-cooled reactors and evolutionary water-cooled reactors. The Agency had established technical working groups focusing on each reactor type - including water-, gas- and liquid metal-cooled reactors - in order to provide interested Member States with a forum for information exchange, collaborative assessment and co-operative research. The role of innovation as a factor critical to the future of nuclear power, and the status of relevant global efforts, had been highlighted in June at an international conference on innovative technologies for the nuclear fuel cycle and nuclear power.

29. The final report on Phase 1A of the Agency's International Project on Innovative Nuclear Reactors and Fuel Cycles (INPRO) had been published in June. The report defined "user requirements" in five areas - economics, environmental impacts, safety, waste management and proliferation resistance - for incorporation into nuclear R&D projects. Also, it provided an assessment method for applying INPRO's user requirements to specific innovative nuclear concepts and designs.

30. Regarding the long-term management of spent fuel and radioactive waste, there had been slow but steady progress. In Finland and the United States of America, efforts directed towards the construction of geological repositories at Olkiluoto and Yucca Mountain were continuing, on the basis of approvals by the respective Governments. In Canada, the Nuclear Fuel Waste Act, which required the owners of spent fuel to develop a management and disposal plan within three years, had entered into force in November 2002. In Europe, the Directorate-General for Energy and Transport of the European Commission had recently proposed a directive that would require Member States of the European Union to decide on the location of repository sites by 2008 and to have the sites operational by 2018. The Russian Federation had in July taken steps to implement a new law allowing the storage and reprocessing of foreign spent fuel, and a number of Asian countries had begun work on siting programmes and the characterization of potential sites for underground repositories for high-level radioactive waste.

31. Technological advances were also being made in the radioactive waste area. In France, Japan, the Republic of Korea, the Russian Federation and the United States of America, R&D work was being done on the use of accelerator-driven systems to incinerate and transmute long-lived waste, in order to reduce the volume and radiotoxicity of the waste before it was sent to geological repositories. The Agency was supporting that work through CRPs, information exchange in technical working groups and at topical meetings, database maintenance and training.

32. In June, at an Agency conference on power reactor fuel storage, a number of organizations had made it clear that they were considering the extension of spent fuel storage times to 100 years or longer. That would require more advanced storage technologies, assessments of the safety implications of prolonged storage, the extension of the licences of existing storage facilities, and sustainable institutional frameworks. The Agency expected an increasing demand for assistance as spent fuel accumulated and storage requirements expanded.

33. The number of successfully completed decommissioning projects was steadily increasing, together with confidence in the feasibility of safe decommissioning. Some Member States were

choosing to dismantle their nuclear facilities immediately, while others were continuing to opt for long-term safe enclosure and delayed dismantling. The choice depended on considerations such as the availability of waste disposal sites, spent fuel storage options, financial resources and radiological exposure. On the basis of the currently licensed operating periods, the number of decommissioned reactors either being dismantled or awaiting dismantling was expected to grow to about 160 over the next 7-10 years. The Agency was continuing to provide technical assistance to ongoing decommissioning projects in Bulgaria, China, Kazakhstan, Latvia, Lithuania, Romania, Serbia and Montenegro, Slovakia and Ukraine. An increasing demand for such Agency assistance during the next few years was expected.

34. Almost two billion people - nearly one third of the population of the planet - remained without access to modern energy supplies. Recognizing that situation, the Agency was helping interested Member States to conduct comparative assessments of energy options, in order that they might determine whether - and, if so, when - nuclear power would be an optimum source of energy, and it would support the development of the necessary infrastructure and capabilities in those countries which decided to proceed with the nuclear power option. An initial country profile for sustainable energy development in Brazil was nearing completion, and work on a similar profile for South Africa was starting.

35. Whether or not nuclear power generation expanded in the coming decades, it was essential that the scientific and technical competence necessary for the safe operation of existing nuclear facilities and the safe conduct of existing nuclear applications be preserved. The management of nuclear knowledge should include succession planning for the nuclear work force, maintenance of the "nuclear safety case" for operational reactors, and retention of the nuclear knowledge accumulated over the past six decades.

36. That was a growing concern for many Member States, and was a topic that related to all areas of Agency activity. Two pilot projects responding to that concern were already under way - one to preserve knowledge about fast reactors and one to build a knowledge base regarding high-temperature gas-cooled reactors. An Asian network for higher education in nuclear technology would be used for pooling, analysing and sharing regional knowledge and experience relating to nuclear technology, and an Asian nuclear safety network was already doing the same for regional knowledge and experience relating to nuclear safety; it was envisaged that the networks would serve as models for other regional networks for nuclear knowledge management. In addition, the Agency was assisting Member States with capacity building and human resources development through education programmes, hands-on training and knowledge transfer in ways best suited to their desired uses of nuclear technology.

37. The launching of the World Nuclear University (WNU) earlier that month in London, at the annual symposium of the World Nuclear Association, had in his view been a positive development. The WNU would essentially consist of a global network of established academic institutions and research centres with programmes in nuclear science and engineering. The main objectives would be to foster co-operation for mutual benefit among those institutions and centres and to promote a broader appreciation - particularly among students - of the opportunities available in nuclear energy-related vocations. The Agency planned to participate in WNU studies on various aspects of nuclear education and training, and it would endeavour to maximize the accessibility of WNU courses to students in Member States.

38. The INPRO report that he had mentioned and various other reports had stressed the fact that a number of critical choices might have to be made in the area of fuel cycle design and operation, partly in order to address proliferation and waste management concerns. The issue was an important one that had been under discussion for several years, and it now merited serious consideration as part of the effort to cope with the increasing non-proliferation, safety, security and technical challenges facing

nuclear power. Such consideration should include an examination of the merits of permitting the use of weapons-usable material (plutonium and highly enriched uranium) in civilian nuclear programmes only when it was subject to multilateral control. Also, thought should be given to limiting the processing of such material - and the production of new material through reprocessing and enrichment - to international centres. The limitations would need to be accompanied by appropriate rules regarding transparency, control and - above all - assurance of supply. It was clear that strengthened control of weapons-usable material was crucial to efforts to strengthen non-proliferation and enhance security.

39. The merits and feasibility of multinational approaches to the management and disposal of spent fuel and radioactive waste should also be examined. The conditions necessary for geological disposal did not exist in all countries, and for many countries with small nuclear programmes for electricity generation or research the financial and human resource investments required for the design, construction and operation of a geological disposal facility were daunting. Considerable economic, safety, security and non-proliferation advantages might accrue from international co-operation in the construction and operation of international waste repositories. The convening of a group of experts by the Agency could be a useful first step.

40. The year 2004 would mark 50 years since electricity generated by nuclear power had first been fed into a national grid - in Obninsk, Russia, in June 1954. In his view, it was important to review the successes achieved during and the lessons learned from 50 years of nuclear power generation - a topic that would be the focus of an international conference to be held under the Agency's auspices in Obninsk in June 2004. Later in 2004, there was to be, in Paris, a conference at ministerial level to examine policies and the prospects for nuclear energy in the 21st century.

41. The choice of whether to use nuclear power remained a national prerogative. The Agency's statutory role, however, was to foster safety, security and technological development, and to support efforts to ensure the continued availability of nuclear power for those who wanted to make use of it.

42. In the coming year, the Agency would focus on a number of high-priority issues related to nuclear power: supporting innovative approaches to the nuclear fuel cycle; promoting quality assurance; assisting Member States with energy planning assessments; promoting research, training and other forms of co-operation in waste management; assisting Member States with their licence extension and decommissioning efforts; supporting new nuclear energy uses; and improving the management of nuclear knowledge.

43. A major part of the Agency's technology-related work was focused on the sharing and transfer of nuclear technology for applications other than nuclear power generation. Under both the regular budget programme and the technical co-operation programme, many of those applications were becoming increasingly important as tools for social and economic development. The approach continued to be a needs-driven one, guided by comparative assessments so as to ensure that nuclear technologies were used only when they provided the best solution.

44. According to WHO, the number of new cancer cases in the developing world was expected to double to ten million annually by 2015, as life expectancy increased and lifestyles changed. However, most developing countries did not have enough health professionals or radiotherapy machines to treat their cancer patients safely and effectively. Indeed, some 15 African countries and several countries in Asia lacked even one radiation therapy machine. In many cases, the machines and the associated radioactive sources could not be safely and securely transferred as the necessary safety and regulatory infrastructures had not been established.

45. The Agency provided training, expertise and equipment in support of national and regional programmes for improving cancer therapy and of other human health programmes, working with

partners such as WHO. A highly visible result of Agency support through technical co-operation projects in Africa had been an increase of approximately 35% during the past five years in the number of cancer patients receiving treatment in countries that were parties to AFRA - an increase of approximately 6500 patients a year. In addition, Agency-organized training had led to a reduction in machine downtime and helped to improve the managerial skills of radiation oncologists and radiographers, which in turn had lowered the overall cost of treatment.

46. During the previous year, a great deal had been done in the field of nuclear medicine. For example, five Agency-organized courses had been held in West Asia alone, providing specialized training for more than 100 physicians and technologists, and technetium-99m radiopharmaceutical kits had been produced for the first time in Albania. The Agency had been working hard to develop advanced information and communication tools that could promote broader access to nuclear medicine in developing countries. A "tele-nuclear-medicine" link had been established between Namibia, South Africa and Zambia to facilitate remote diagnosis and treatment, and another such link was being established among 15 countries in Latin America. Also, the Agency had developed an Internet-based training programme that would be made available to all nuclear medicine professionals in developing countries.

47. Improving the availability of the world's water resources was recognized as an area of crucial importance for development. More than one sixth of the world's population lived in areas without adequate access to safe drinking water, a situation that was expected to worsen significantly unless the international community took prompt and effective action. Isotope hydrology was being used, in more than 80 technical co-operation projects, to map underground aquifers, manage surface water and groundwater, detect and control pollution, and monitor dam leakage and safety. An ongoing regional isotope hydrology project in Latin America had brought together more than 30 institutes to address water shortage problems, and conceptual models for seven aquifers - in Chile, Colombia, Costa Rica, Ecuador and Peru - had been developed. In Yemen, the Agency had assisted with the assessment of the deep and shallow groundwater system in the region of the Sana'a basin. In Africa, Member States had proposed a number of projects relating to shared aquifers - for example, projects to promote the sustainable development and equitable use of the common water resources of the Nile Basin, the Nubian Sandstone Aquifer and the North Western Sahara Aquifer.

48. The Agency was helping Member States to explore the technical and economic feasibility of seawater desalination using nuclear energy. At Pakistan's Karachi Nuclear Power Plant, a reverse osmosis facility had been in service since 2000, producing about 450 cubic metres of fresh water a day. In India, at the Kalpakkam Nuclear Power Plant, a desalination plant designed to produce 6300 cubic metres of fresh water a day was being commissioned. In the Republic of Korea, a design had been developed for a nuclear desalination plant which, using a Korean SMART reactor, would supply 40 000 cubic metres of fresh water and 90 MW of electricity a day.

49. For many years, the Agency had been working with Member States on the mutation breeding of major food crops, and important results were now emerging in the form of commercial crops. For example, in Asia and the Pacific region, following trials with mutant varieties of rice in nine countries, many strains that yielded very well in different ecological conditions had been identified. In August, members of Indonesia's Parliament had attended a harvesting ceremony held in recognition of the sustained positive economic impact of a rice variety with higher yield and of better quality that had been produced using gamma rays and successfully introduced in 20 Indonesian provinces; he expected the release of at least seven new rice varieties in that part of the world during the next three to five years. A regional technical co-operation project completed the previous year had brought valuable mutated germplasm to 12 countries of Asia and the Pacific region.

50. Work on the use of the sterile insect technique (SIT) to control the tsetse fly in Africa was continuing. The SIT was also being used against other insect pests - for example, the Agency was collaborating with authorities in Thailand in combating the oriental fruit fly and the Guava fruit fly by integrating the SIT with other control methods.

51. In the area of humanitarian de-mining, the PELAN fast-neutron mine detector had been field-tested the previous year in Croatia with help from scientific staff of the Croatian Mine Action Centre. The test had shown that the detector could reliably identify mines of certain sizes at various depths under the soil surface in dry conditions, but more work needed to be done in order to achieve the reliable detection of smaller anti-personnel mines and detection in wet soil conditions.

52. The Agency's laboratories at Seibersdorf were continuing to support the Agency programmes relating to agriculture, human health, nuclear instrumentation, water resources, radiation protection and safeguards. They were also continuing to assist Member States with the calibration of dosimetry systems for national standards laboratories and to provide audit services designed to ensure the accuracy of the radiation doses delivered in hospital radiotherapy units and research institutes worldwide. Each year, the Agency performed about 60 dosimetry system calibrations and 400 dosimeter checks for hospital radiotherapy units, in addition to training dozens of medical physicists.

53. That year, a small laboratory had been inaugurated at Seibersdorf for work on the use of the SIT in combating malaria-transmitting mosquitoes. However, several years of research would be needed before extensive field trials with radiation-sterilized mosquitoes would be practicable.

54. The Agency intended to introduce terrestrial radioecology programmes at Seibersdorf in the near future, the aim being to create urgently needed capacity for the assessment and remediation of contaminated sites after both radioactive and conventional pollution.

55. In November 2002, the Agency's deep underground counting laboratory had been inaugurated in Monaco. The underground location of the laboratory - for which Japan and the Monagasque Government had provided funding - reduced background interference from cosmic radiation and other sources and allowed significant reductions in sample volume and/or measuring time, greatly enhancing the efficiency of both field sampling and laboratory work.

56. The demand for CRPs, which brought institutes in developing and developed Member States together in collaborative research on topics of common interest, remained high. Currently, the Agency was spending about \$6.4 million a year on 132 active CRPs covering most aspects of its technical work, including cutting-edge nuclear techniques related to liver cancer therapy, drug resistance, child health, the development of radiation-modified crops for harsh environments, and - as part of recently expanded efforts to prevent nuclear terrorism - improvement of the sensitivity of instruments used for detecting illicit trafficking in nuclear material.

57. Participation in a CRP helped Member States to understand the potential of a given nuclear application, and CRP results - such as the results of research into new plant strains - often led to technical co-operation project requests. In an effort to make the CRP system more transparent and accessible for Member States' research institutes, the Agency had developed an interactive web site that provided a great deal of information on-line. Also, the Agency was continuing to introduce so-called "doctoral CRPs", which paired postgraduate students in developing countries with professors at research institutes in developed countries, thereby combining educational and research objectives.

58. Looking ahead, it was clear that the Agency would have to increase its efforts to provide Member States and the public at large with objective information about the range of nuclear technologies available, in order to bring about a more balanced view of the benefits of nuclear energy

and, using comparative assessments where applicable, to enable Member States to arrive at informed judgements about how best to use those technologies in addressing development needs. The Agency would seek to establish partnerships with other organizations when it considered that their technical expertise could increase the benefits derived from different nuclear applications. Also, the Agency would continue promoting the use of isotope hydrology techniques, endeavouring to improve the access to nuclear medicine and radiotherapy techniques worldwide, supporting research into plant strains adaptable to harsh environments, and encouraging the development of terrestrial radioecology techniques that could assist with the cleanup of sites contaminated by radioactive and other pollutants.

59. The safety and security of nuclear activities around the globe remained important for the future of nuclear technology. It was gratifying that safety continued to improve at nuclear power plants worldwide, that more and more countries were raising their levels of performance in radiation protection, and that significant steps had been taken in the past two years to improve nuclear security. However, more needed to be done, particularly as public demands for greater transparency and accountability on safety issues were being widely voiced in many countries. Consequently, meeting the need for a more effective and transparent global nuclear safety and security regime continued to be a high priority.

60. The Agency promoted the sharing of nuclear facility operating information. Also, national regulatory bodies and the nuclear power industry shared operating experience, and the Agency and the World Association of Nuclear Operators communicated the lessons learned from international experience through their peer review programmes. However, despite continued efforts by the entire nuclear community to share lessons learned from events that had occurred at nuclear facilities, incidents with similar root causes continued to occur, often shedding light on the safety culture situation. That had been seen not only in Member States with evolving regulatory infrastructures but also in Member States with robust ones, as evidenced by incidents that had occurred in recent years in countries such as France, Germany, Hungary, Japan, Sweden and the United States of America. There was a need for a focused commitment to ensuring that the lessons learned in one country were effectively communicated to all other countries and reflected in the operational and regulatory practices of all relevant nuclear facilities.

61. Currently, over 270 research reactors were in operation around the world, more than 200 were shut down and nearly 170 had been decommissioned. The safety of research reactors and the safe management and disposal of research reactor fuel continued to be areas of Agency emphasis. The United States of America had in 1996 initiated efforts to have spent research reactor fuel of United States origin returned to it for disposal, and he was pleased that similar efforts relating to research reactor fuel of Russian origin were being considered. A highly relevant Agency initiative in that connection was the development of a Code of Conduct on the Safety of Research Reactors, which he intended to submit to the Board for consideration in due course.

62. Legally binding international agreements had proved to be a powerful mechanism for enhancing safety worldwide. One such agreement was the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, for which the first implementation review meeting would begin on 3 November 2003. Thirty-two contracting parties had submitted national implementation reports, and they were now reviewing and commenting on each other's reports. At the review meeting, they would discuss the reports and compile a summary of their observations and conclusions. That summary would provide a first snapshot of the status of the safety of spent fuel management and radioactive waste management in States parties to the Joint Convention. However, many States were not yet contracting parties, and the snapshot would therefore be far from global. All States - even ones with no nuclear power plants or research reactors - had radioactive waste that must be managed safely, and he would accordingly like to see all States adhering to the Joint Convention.

63. Within the framework for co-operation established by the Early Notification Convention and the Assistance Convention, the Agency had assisted Bolivia, Ecuador, Nigeria and the United Republic of Tanzania with the recovery, characterization and securing of radioactive sources seized in illicit trafficking incidents. In June, 55 Member States had participated in the second meeting of representatives of national competent authorities identified under those two conventions, which he hoped would lead to the transformation of the two conventions from purely reactive mechanisms to proactive mechanisms for enhancing emergency preparedness and response.

64. The Convention on Nuclear Safety was now approaching its third review cycle. The contracting parties would have to submit their national reports before the end of September 2004, sufficiently in advance of the review meeting due to take place in April 2005. To assist them with the preparation of their reports, the Agency was, in response to a request made at the 2002 review meeting, preparing a report on generic issues and trends in the area of nuclear power reactor safety that it had identified in the course of providing safety-related services.

65. In the past two years, 20 additional States had become parties to the 1979 Convention on the Physical Protection of Nuclear Material (CPPNM), bringing the total number of States parties to 89. That increase reflected the importance being attached to the CPPNM as part of the international nuclear security regime. In September 2001, he had convened an open-ended group of legal and technical experts to prepare a draft amendment to the CPPNM. In March 2003, the group had finally been able to adopt a report, which he had distributed to all States parties. The possible amendments identified in the report would extend the scope of the CPPNM to cover, inter alia, the physical protection of nuclear material in domestic use, storage and transport and the protection of nuclear material and facilities against sabotage. However, the text contained - in brackets - a number of clauses on which the group had not been able to reach agreement. He would like States parties to work rapidly towards consensus on the outstanding issues, so that a diplomatic conference to adopt the proposed amendments could be held at an early date.

66. He was pleased to report good progress in the revision and updating of Agency safety standards. The aim was to complete the upgrading of all existing standards by late 2004. In addition, the Agency hoped to fill the remaining gaps in coverage - for example, by establishing internationally accepted safety standards for geological waste repositories - and to introduce a more coherent structure for the corpus of safety standards during the next three or four years, with a view to the standards being accepted and implemented as the global reference for protecting people and the environment from the harmful effects of ionizing radiation.

67. The Agency's safety review and appraisal services helped Member States to apply Agency safety standards and provided useful feedback on their effectiveness. At first, the focus had been essentially on nuclear installation safety, but now there were services relating to radiation, transport and radioactive waste safety as well. The provision of safety-related services and assistance to the countries of central and eastern Europe operating power reactors had been at the centre of the Agency technical co-operation programmes for those countries during the past decade, resulting in a significant positive impact on the operational safety of their power reactors.

68. The demand for safety-related services continued to be very strong; the Annual Report for 2002 listed more than 60 safety missions of various types to 29 States. Collectively, the services had generated a substantial body of worldwide safety experience.

69. He had reconstituted the International Nuclear Safety Advisory Group with new terms of reference and a new membership, the aim being to have an authoritative source of recommendations and opinions on current and emerging nuclear installation safety issues.

70. With a view to the creation of a global, effective nuclear liability regime, he had decided to establish an International Expert Group on Nuclear Liability (INLEX) whose three main functions would be: to explore - and provide advice on - general issues relating to nuclear liability, including the need to further develop the Agency's nuclear liability regime; to promote the adherence of all States to that regime regardless of whether they engaged in nuclear power-related activities; and to assist Member States in developing and strengthening national legal frameworks related to nuclear liability.

71. Although the transport of spent nuclear fuel and other radioactive material had been going on for decades without serious accidents, many Member States continued to express concern about the maritime transport risks. As part of the Agency's efforts to promote dialogue among Member States, a widely attended international conference on the safety of transport of radioactive material had been held in Vienna in July. Most of the technical issues had been successfully addressed during the conference. Owing to the complexity of - in particular - the nuclear liability issue and the communication issue, however, some areas of disagreement between Member States had remained. The Agency would continue to promote constructive dialogue on those issues.

72. That year there had been Transport Safety Appraisal Service (TranSAS) missions to Turkey and Panama and a pre-TranSAS visit to France, following missions to Brazil, Slovenia and the United Kingdom. Some of the key States involved in the maritime transport of radioactive material had now hosted TranSAS missions, which he hoped would help to build confidence in the safety of international radioactive material transport and encourage other States, particularly ones very active in the transport of radioactive material, to make use of TranSAS.

73. The Agency's efforts to help Member States increase their nuclear security were continuing at a fast pace on several fronts. Measures to prevent the theft of nuclear material and the sabotage of nuclear facilities remained a high priority, and concerns about the threat of radiological terrorism had given increased emphasis to measures to improve the security of other radioactive material and to counter illicit trafficking.

74. Since September 2001, the Agency had conducted 40 advisory and evaluation missions to countries in Europe, Asia, Latin America and Africa and convened 60 training courses, workshops and seminars. An international conference held in October 2002 in Karlsruhe, Germany, had focused on helping States to make use of advanced methods for analysing nuclear material seized in illicit trafficking incidents and to improve co-ordination between the nuclear science community and the law enforcement community. There had been International Physical Protection Advisory Service (IPPAS) missions and follow-up missions to Bulgaria, Lithuania, Poland, Turkey and Ukraine, and requests for eight additional IPPAS missions - to countries in Latin America, Europe and Asia - were currently being processed. Regional training courses on physical protection had been held Asia and Eastern Europe, and such courses were planned for Africa and Latin America. An international course was taking place in the United States at the moment, and a further one was planned for October.

75. The identification and remedying of vulnerabilities at nuclear installations was an area in which safety and security merged. Workshops on safety measures contributing to the security of nuclear installations had been held in Hungary, India, the Islamic Republic of Iran and Turkey. At an Agency conference held in Rabat, Morocco, earlier in the month, Member States had acknowledged the positive impact of the Agency's Model Projects for upgrading national radiation protection infrastructures, at the same time calling for Agency guidance on how to reconcile the need for transparency in matters of radiation safety with the need for confidentiality where security was involved.

76. There had been missions to numerous Member States in Eastern Europe, Africa and Central America for the purpose of assessing their ability to detect nuclear and other radioactive material at

their borders and helping them to respond to illicit trafficking in such material. Significant progress had been made in formulating guidance for Member States on how to plan for responding to radiological emergencies resulting from malicious acts and on how to detect and respond to acts of illicit trafficking.

77. In that connection, the Agency was strengthening its co-operation with other international organizations - including the United Nations and its specialized agencies, Interpol, Europol, the Universal Postal Union and the European Commission - in areas such as training and information exchange.

78. Voluntary contributions amounting to nearly \$23 million had been pledged to the Nuclear Security Fund by 21 countries and one organization, and over \$13 million of that amount had been received. Much work remained to be done, however, and he hoped that further financial support would be forthcoming.

79. Despite the increased attention being paid to the security of radioactive sources since September 2001, many countries still lacked the programmes and resources necessary for responding properly to the threat of nuclear and radiological terrorism. From information in the Agency's illicit trafficking database, combined with reports on discoveries of plans for making radiological dispersal devices, it was clear that a market existed for radioactive sources that could be used for malevolent purposes. Given the apparent readiness of terrorists to disregard their own safety, the personal danger involved in handling powerful radioactive sources could no longer be regarded as an effective deterrent. Fortunately, there had so far been no cases of radiological dispersal device utilization, but clearly the possible utilization of such devices had to be guarded against.

80. Concern about radiological dispersal devices had been the focus of an international conference held in Vienna in March. The conference had emphasized the need for the Agency to assist States with locating and securing orphaned radioactive sources, to encourage the development of national source registries and strong national regulatory oversight bodies, to provide training and assistance designed to improve border controls and prevent illicit trafficking in nuclear and other radioactive material, and to promulgate guidance on strengthening relevant national and international efforts. Findings from the conference had been reflected in a revised action plan for the safety and security of radioactive sources and a revised Code of Conduct on the Safety and Security of Radioactive Sources which had been approved the previous week by the Board of Governors and the implementation of which would greatly improve radioactive source safety and security.

81. The initiative launched by Russia, the United States and the Agency for securing vulnerable radioactive sources in countries of the former Soviet Union had so far resulted in missions to the Republic of Moldova and Tajikistan, with missions scheduled for seven additional countries. Also, the Agency was providing developing countries with assistance designed to ensure that sealed sources could be used and disposed of safely and securely; for example, it had assisted Angola, Sudan and Côte d'Ivoire in organizing the return of sealed sources to the manufacturers.

82. While much had been achieved in the area of nuclear safety and security, much still needed to be done in - for example - learning from recurring events, enhancing research reactor safety, continuing to enhance transport safety and tightening up the control of radioactive sources. The creation of a global nuclear safety culture - characterized by broad adherence to safety conventions, the adoption of legally binding agreements for the areas still not covered by such conventions, universal application of the complete set of Agency safety standards, and increased collaboration with relevant international organizations such as OECD/NEA and WHO - would do much to address the remaining vulnerabilities. The volume and scope of the activities relevant to protection against nuclear terrorism demonstrated the Agency's ability to respond rapidly and with flexibility to emerging

priorities, but the Agency would have to maintain the pace of its efforts if it was to be successful, particularly in combating illicit trafficking, protecting nuclear installations and nuclear and other radioactive material against sabotage, and responding to threats that could lead to radiological emergencies.

83. The strengthening of the nuclear non-proliferation regime was becoming more important than ever. Events of the past year had placed that regime under stress on several fronts and had made it clear that resolute steps to strengthen the regime were urgently required. The Agency's role as an independent, objective verification body remained central to the effectiveness of the regime.

84. In the SIR for 2002, the Agency concluded that, during 2002, in the 145 States (and in Taiwan, China) with safeguards agreements in force, the nuclear material and other items placed under safeguards had remained in peaceful nuclear activities or had been otherwise adequately accounted for - with the exception of the nuclear material in the DPRK. Moreover, in the case of 13 States with both a comprehensive safeguards agreement and an additional protocol in force, the Agency, having found no indication of the existence of undeclared nuclear material or activities, had been able to provide broader assurance, concluding that all the nuclear material in those States had been declared and remained under safeguards.

85. In response to resolution GC(46)/RES/12 adopted by the General Conference in 2002, the Secretariat had increased its efforts to promote the strengthened safeguards system through the conclusion of further safeguards agreements and additional protocols. Regional seminars had been held in Malaysia, Romania and Uzbekistan, with the financial support of Japan and the United States of America, in order to deepen the participating State officials' understanding of the role of safeguards agreements and additional protocols in promoting the achievement of global and regional non-proliferation and security objectives.

86. Since the previous year's General Conference session, safeguards agreements had entered into force for Burkina Faso and Georgia, and the validity of Albania's NPT safeguards agreement had been confirmed by an exchange of letters. Also, additional protocols had entered into force for Burkina Faso, the Democratic Republic of the Congo, Cyprus, Georgia, Jamaica, Kuwait and Mongolia. Additional protocols had now been concluded with 76 States and had entered into force for 36 of them.

87. Clearly, however, the number of safeguards agreements and additional protocols in force remained well below expectations. Forty-seven States had yet to fulfil their legal obligation under the NPT to bring safeguards agreements with the Agency into force, and more than six years after the Board's approval of the Model Additional Protocol over 150 countries still did not have an additional protocol in force.

88. All those States which had not yet concluded and brought into force the required safeguards agreements and additional protocols should do so at an early date. Without the conclusion of safeguards agreements the Agency could not provide any assurance about the compliance of States with their nuclear non-proliferation obligations, and without the conclusion of additional protocols it could provide little or no assurance about the absence of undeclared material and activities.

89. In 2002 he had reported that the conceptual framework for integrated safeguards had been completed, meaning that the necessary safeguards concepts, approaches, guidelines and criteria were sufficiently developed for the Agency to begin implementing integrated safeguards in States where the requisite safeguards conclusions had been drawn. Integrated safeguards aimed to improve the effectiveness and cost-efficiency of verification activities by integrating traditional nuclear material verification activities with new safeguards-strengthening measures, particularly those provided for in additional protocols. Efforts to improve the Agency's technological capabilities for detecting

undeclared nuclear material and activities were continuing. Integrated safeguards were currently being implemented in three States - Australia, Indonesia and Norway.

90. Those three States had relatively small nuclear programmes. However, the implementation of integrated safeguards in States with much larger nuclear programmes - including Canada, Hungary and Japan - was expected to begin in the near future.

91. He had recently initiated an evaluation of the efficiency and effectiveness of the safeguards-strengthening measures now being implemented. The evaluation would be carried out by independent external evaluators, under the auspices of the Agency's Office of Internal Oversight Services. Also, he had asked SAGSI to carry out a technical review of the safeguards criteria.

92. The situation in the DPRK continued to pose a serious challenge to the nuclear non-proliferation regime.

93. As he had reported repeatedly to the Board, since 1993 the Agency had been unable to fully implement its NPT safeguards agreement with the DPRK. The Agency had never been allowed by the DPRK to verify the completeness and correctness of its initial declaration, made in 1992 - specifically, to verify that the DPRK had declared all the nuclear material subject to Agency safeguards under the NPT safeguards agreement. From November 1994 to December 2002, the Agency had been allowed to monitor the "freeze" on the DPRK's graphite-moderated reactor and on related facilities pursuant to the Agreed Framework, but at the end of December 2002 the Agency's inspectors had been withdrawn from the DPRK at its request. Since that time, the Agency had not performed any verification activities in the DPRK, and it could therefore not provide any assurance about the non-diversion of nuclear material in that country.

94. The recent six-party talks in Beijing had clearly been a step in the right direction, towards a comprehensive resolution of the Korean crisis. He hoped that the dialogue would continue, that any future settlement would ensure the return of the DPRK to the nuclear non-proliferation regime, and that the Agency would be given the authority, resources and information necessary in order to fulfil its responsibilities under the NPT in a credible manner. He also hoped that the Agency would be consulted at an early stage on verification requirements.

95. After an interruption of nearly four years, the Agency had resumed verification activities in Iraq in November 2002 under the mandate provided by United Nations Security Council resolution 687 and related resolutions. In December 1998, it had reported to the Security Council that the inspections carried out by it over a period of more than seven years had yielded no indication of Iraq having achieved the goal of producing a nuclear weapon and no indication that there remained in Iraq a physical capability for producing amounts of weapons-usable nuclear material of practical significance.

96. Between November 2002 and March 2003, Agency inspection teams had carried out extensive inspection activities in Iraq to determine what, if anything, of relevance to Iraq's nuclear activities and capabilities had changed there during the previous four years.

97. At the time when the Agency had - in consultation with the President of the Security Council and the United Nations Secretary-General, and out of concern for the safety of its staff - ceased its Security Council-mandated verification activities in Iraq, it had found no evidence of a revival of nuclear activities prohibited under the relevant Security Council resolutions. However, following the four-year absence of its inspectors from Iraq, the time available for the renewed inspections had not been sufficient to permit the Agency to complete its overall review and assessment.

98. The Agency's mandate in Iraq under various Security Council resolutions still stood. In May, the Security Council had in resolution 1483 expressed its intention to review the mandates of the

Agency and UNMOVIC. The Agency was awaiting the results of the review and further guidance from the Council. In the meantime, he hoped to be kept informed of the outcome of any current activities in Iraq that were relevant to the Agency's mandate. Quite apart from its responsibilities pursuant to that mandate, the Agency had the continuing responsibility, under Iraq's NPT safeguards agreement, to ensure that Iraq did not have any nuclear material or activities proscribed by that agreement and that all nuclear activities in Iraq were for peaceful purposes. The Agency would of course continue to fulfil that responsibility.

99. In July he had reported to the Board and to the Security Council on a verification mission to Iraq that had been carried out in June. The request for that mission had been triggered by persistent media reports of looting. The mission team's activities had been confined to the verification of material subject to safeguards at "Location C" Nuclear Storage Facility near Tuwaitha, where the looting had reportedly taken place. In its report, the Agency had stated that a small quantity of uranium compounds could have been dispersed. Although - fortunately - neither the quantity nor the type of material involved would be sensitive from a proliferation point of view, he had called upon the Coalition Authority to ensure the physical protection of the entire nuclear inventory in Iraq.

100. Pursuant to the mandate given him by the General Conference, he had continued to consult with the States of the Middle East region about the application of full-scope safeguards to all nuclear activities in the Middle East, the development of model agreements, and a forum on the experience of other regions that would contribute to the establishment of a nuclear-weapon-free zone in the Middle East. Once again, he regretted to report that, owing to the situation in the region, he had not been able to make progress in the implementation of that important mandate, which was of direct relevance to non-proliferation and security in the Middle East. As before, he would continue to exert every effort within his authority, and hoped that, with the active co-operation of all concerned, he would be able to make some progress in the coming year.

101. During the current year, the Board had paid considerable attention to the implementation of the Agency's NPT safeguards agreement with the Islamic Republic of Iran. The previous week, it had adopted a resolution urging Iran to show proactive and accelerated co-operation and to demonstrate full transparency by providing the Agency with a complete and accurate declaration of all its nuclear activities. It was essential that all outstanding issues - particularly those involving highly enriched uranium - be brought to closure soon, so as to enable the Agency to provide the required assurance. As he had often stated, the more transparency was provided, the more assurance could be given - which was in the interests of both Iran and the international community. He therefore looked forward to a period of enhanced co-operation with Iran.

102. For many years, he had reported on the progress being made under the initiative of Russia and the United States regarding the submission of nuclear material released from military programmes to Agency verification, with a focus on the associated technical, legal and financial issues. In September 2002, he had agreed with Minister Rumyantsev of Russia and Secretary Abraham of the United States that the initial phase of the work could now be concluded and that the verification concepts explored pursuant to the initiative would enable the Agency to derive credible and independent verification conclusions while the two States concerned would be able to ensure that sensitive information relating to the design or manufacture of nuclear weapons would not be divulged. The legal framework developed was ready to be used as the basis for the negotiation of agreements between the Agency and the two States, but no request regarding negotiations had yet been received from either of them.

103. Agency verification continued to be a critical component of the nuclear non-proliferation regime, but its effectiveness depended on the Agency having the necessary authority, information and resources. An immediate priority, therefore, was the conclusion of comprehensive safeguards

agreements and additional protocols by all States that had made non-proliferation commitments. Also, it was essential that Member States provide the Agency with all the information relevant to its work, since the aim was to continue to implement safeguards in a manner that increased overall effectiveness and efficiency. On the broader front, it was essential that the international community continue to work towards the universal application of the Agency's safeguards system. That was the key to the long-term viability of the non-proliferation regime.

104. The technical co-operation programme of the Agency continued to be a major mechanism for implementing its basic - "Atoms for Peace" - mission. With the Agency's needs-driven approach there continued to be substantial differences between the technical assistance provided to different countries and regions: while many countries and regions focused primarily on development needs, others focused more on nuclear power plant safety, border controls, and other safety and security issues.

105. The Secretariat was still working on ways of ensuring that Agency technical co-operation projects produced lasting benefits for recipient Member States. Efforts were being made to improve the planning of national technical co-operation strategies through early and direct dialogue with Member States and to ensure strong governmental commitment, with the focus on fewer but higher-quality projects. Eighty-seven country programme frameworks - 29 more than in the previous year - were now in place as planning tools for the design of technical co-operation projects within the context of national priorities. Thematic plans - which highlighted particular technical areas in which a nuclear technology could make a significant impact - had been prepared for food irradiation, river basin management and the use of isotopic techniques in the control of communicable diseases. Monitoring of the impact of projects had been expanded in order to increase project quality, relevance, effectiveness and sustainability.

106. The Agency was continuing to build and expand partnerships with other international organizations and development partners, with a view to leveraging its limited resources, highlighting the benefits of nuclear technologies and - in some cases - drawing on the technical expertise of others so as to enhance the impact of a particular nuclear technique.

107. Thus, the Asian Development Bank had recognized the Agency's value in connection with its initiative aimed at reducing micronutrient malnutrition in Asia. Also, investigations carried out in Indonesia using stable isotopes to measure the effectiveness of fortified wheat flour had attracted the co-sponsorship of UNICEF, and the Indonesian experience was being drawn upon by China, Pakistan and other countries in studies designed to provide a basis for the formulation of nutrition policies. In addition, the results of an Agency project in which isotope-labelled water had been used in studying energy expenditure in young children in Chile and Cuba were being drawn upon by an FAO/WHO/UNU expert committee that was formulating recommendations on revised child nutrition requirements - work that would lead to an Agency study on low birth rates and one on obesity in adults, the results of which would be shared with WHO.

108. The Agency was working to strengthen technical co-operation among developing countries through the pooling of resources and expertise in areas of mutual benefit, both within and between regions. For example, Mexico and Guatemala had established bilateral arrangements under which Mexico supported the implementation of a technical co-operation project in Guatemala through the provision of technical expertise. Also, Chile and the Republic of Korea had recently initiated bilateral co-operation, with Agency support, in the use of nuclear techniques in medicine and other fields. In addition, at the end of 2002 there had been seven regional resource centres in Africa designated within the AFRA framework for joint efforts in the areas of non-destructive testing, plant mutation breeding, radiation oncology, radioactive waste management and scientific equipment maintenance.

109. Most of the nuclear institutions in developing countries were largely dependent on government or donor funding for their operations. That funding had been gradually decreasing, which was endangering those institutions, whose expertise might well be lost. Several nuclear institutions had identified the inability to generate and retain income from services and products as a major barrier to self-reliance and sustainability.

110. The Agency had been providing those institutions with guidance and training designed to help them achieve self-reliance and sustainability by revising their managerial practices, exploiting their core competencies and focusing their operations on areas relevant to national development efforts. In Africa, through support provided within the AFRA framework, at least ten national nuclear institutions had, by taking such action, become less dependent on external funding. In the East Asia and Pacific region, a regional project had focused on helping nuclear institutions to achieve self-reliance by providing needed services and products to the public and the private sector, thereby generating income and contributing directly to national development.

111. Although many development needs of Member States were addressed through the sharing and transfer of nuclear technology, the public at large and even national and international decision-makers were often unaware of the fact. There was an awareness gap, and he had therefore asked the Secretariat's technical co-operation and public information experts to work out an "external communication approach" together with representatives of Member States. He hoped that through better communication focused on a few thematic areas and a well-defined audience, including donor groups and international development organizations, it would be possible to demonstrate the soundness of investments in nuclear technology and know-how for economic and social development.

112. Technical co-operation programme implementation, measured in financial terms, had in 2002 reached an all-time high of \$74.6 million - after the record of \$71.0 million attained in 2001. However, implementation during 2003 had been hampered by - inter alia - the SARS epidemic and travel and transport restrictions resulting from security concerns, and the overall implementation figure for 2003 was likely to be somewhat lower than that for 2002. In particular, the Agency had found it increasingly difficult to place fellows from many developing Member States in traditional host countries and to obtain visas for training course and workshop participants. The co-operation of Member States in helping to address the Agency's difficulties was important.

113. The new resources received for the 2002 programme had amounted to only \$67.7 million, the lowest figure for new resources since 1998. Although the rate of attainment for contributions to the TCF had been set at 85% of the TCF target for 2002, the contributions received had corresponded to only about 80% of the target. The level of the pledges and payments of contributions to the TCF made so far in 2003 was encouraging, suggesting an upward trend, but he would nevertheless urge all Member States that had not already done so to pledge and pay their full shares of the TCF target for 2003, in order to allow the 2003 technical co-operation programme to be fully implemented as planned and to provide a solid basis for the programme currently being finalized for 2004.

114. With the Agency's technical co-operation programmes continuing to respond successfully to the needs of Member States, the Agency was experiencing an ever-increasing demand for support through technical co-operation activities, and securing sufficient resources to meet that demand was a major challenge. He would continue to seek ways of enhancing the impact of technical co-operation projects through better planning, closer monitoring, expanded partnerships, the encouragement of self-reliance at national nuclear institutions, and the strengthening of technical co-operation among developing countries. Also, he would introduce a more proactive approach to external communication, so as to raise awareness of the developmental benefits of nuclear technologies and thereby attract greater financial support.

115. He was pleased that, after many months of intensive consultations, the Board had recommended the acceptance of regular budget proposals for 2004 which, when coupled with its plan to phase in further regular budget increases over the next few years, up to and including 2007, should go a long way towards easing the budgetary problems of the Agency and enabling it to carry out its top-priority activities. He was grateful for the hard work of the Board and of those Member States which had participated in the consultations conducted within the open-ended working group established for that purpose.

116. He and the Secretariat, mindful of the fact that additional funds brought with them additional responsibilities, would remain committed to ensuring efficient and effective Agency programme delivery. A process of management reform had been introduced in 1998, and since then a number of important changes had been made - for example, results-based management had been introduced, a medium-term strategy had been adopted, annual senior management conferences had been instituted, the structure and internal procedures of the Secretariat had been streamlined, the Agency's efficiency and organizational capacity had been enhanced through the greater use of information technology and, most recently, co-ordinators for cross-cutting issues had been appointed.

117. In addition to the safeguards reviews mentioned by him earlier, an internal review of the Agency's technical co-operation programme management processes and the associated human resource requirements was currently under way.

118. Moreover, efforts were being made to ensure that the various management initiatives launched and reforms introduced in recent years became part of the culture of the Secretariat.

119. The end of the first biennium of full results-based management was approaching. The experience gained would be looked at closely and the lessons learned would be drawn upon in the next programme and budget cycle. In that connection, he would urge all Member States that had not yet done so to accept the amendment to Article XIV.A of the Statute which the General Conference had approved in 1999 in order to permit the introduction of biennial budgeting. To date, only 33 Member States had lodged the required instrument of acceptance with the depositary government. Biennial budgeting was important for the Agency's recently introduced results-based approach to management and for the full implementation of a more effective programme and budget process.

120. In recruiting Agency staff, he was guided by Article VII of the Statute, which stated that the paramount consideration in the recruitment of staff should be "to secure employees of the highest standards of efficiency, technical competence, and integrity." In addition, he was mandated by the Statute and by General Conference resolutions to take into account: the contributions of Member States to the Agency; the importance of recruiting staff on as wide a geographical basis as possible, including unrepresented and under-represented countries; the desirability of increasing the number of staff from developing countries in senior positions; and the need for equality of gender representation in Professional positions.

121. In the past six years, he had endeavoured to take those things into account, and the Agency now had 20% more Professional staff from developing countries. He would continue to fulfil his responsibilities with the best interests of the Agency in mind, and in accordance with Article VII of the Statute, the relevant General Conference resolution and the Board-approved staff regulations. However, he would need the assistance of Member States in identifying well-qualified persons and encouraging them to apply for vacant positions in the Agency.

122. The international interest in nuclear issues continued to be high, helping to raise the Agency's public profile. That was providing an opportunity to increase the awareness not only of the Agency's role in areas of great current concern but also of other aspects of the Agency's work. The Secretariat was striving to make good use of that opportunity in its responses to news media, on its web pages,

and through its targeted multimedia products. For example, in hundreds of interviews during the past year about non-proliferation issues it had frequently reminded audiences of those other aspects. Some months earlier, a press campaign about the role of radiotherapy in combating the growing problem of cancer in developing countries had generated television, radio and press stories worldwide. He hoped that the Agency would continue to generate broader awareness of all the ways in which its work benefited Member States.

123. After several years of reform efforts, the Agency could be proud of having achieved “cutting edge” effectiveness and efficiency, but it would continue to strive for performance improvements. The technical co-operation programme had become much more results-focused, but the resources for it needed to be more reliable, and the Agency needed to work more closely with recipient governments and other partners in order to increase the effectiveness of the programme.

124. On the technology front, with global warming becoming an ever more serious threat worldwide the role of nuclear power as a clean source of energy that could mitigate that threat and contribute to sustainable development would depend on the success of the nuclear community in developing innovative technology and new approaches to current concerns. Non-power nuclear applications continued to demonstrate their increasing value, but there should be comparative assessments to ensure that such applications were employed only when they offered the best solution, and other technologies should still be used where they could enhance the benefits of a given nuclear technique.

125. On the safety and security front, there were grounds for satisfaction at the degree of progress achieved, but all must remain vigilant. In the verification area, the Agency was working in an environment in which the nuclear non-proliferation regime was under growing stress. It should have all the authority, information and resources necessary in order to provide the international community with credible assurances. Also, the international community should work on bringing about the universality of the regime, address the question of proliferation incentives and endeavour to acquire better control over weapons-usable nuclear material, to establish a system of collective security that did not depend on nuclear weapons and to make steady but faster progress towards nuclear disarmament.

126. The current year marked the 50th anniversary of the “Atoms for Peace” speech in which President Eisenhower had articulated a vision, shared by many world leaders, of humanity making full use of the benefits of nuclear energy while minimizing its risks. That vision had led to the establishment of the Agency. Much had changed since then, and he believed that the time had come to take stock of the successes and failures, and to resolve to take whatever actions were required, including a switch to new ways of thinking and unconventional approaches, in order to ensure that nuclear energy remained a source of hope and prosperity for humanity and not a tool for self-destruction.

6. Contributions to the Technical Co-operation Fund for 2004 (GC(47)/20)

127. The PRESIDENT said that, following an agreement reached by the Board of Governors on 18 July 2003, a TCF target figure of \$74.75 million had been recommended for 2004. The early pledging and payment of contributions to the TCF greatly helped the Secretariat in planning the Agency’s technical co-operation programmes, and he therefore urged delegations in a position to do so to notify the Secretariat during the current Conference session of the contributions which their

governments would be making to the TCF for 2004. He would report at the end of the session, under a later agenda item, on the contributions which had been pledged so far.

7. General debate and Annual Report for 2002 (GC(47)/2)

128. The PRESIDENT, pointing out that more than 90 delegates had already inscribed their names on the speakers' list, took it that, in order to avoid prolonged afternoon meetings (or a night meeting, the cost of which would be more than \$16 000), the Conference authorized him, under Rule 50 of the Rules of Procedure, to limit the duration of speeches to 15 minutes.

129. It was so agreed.

130. Mr. RUMYANTSEV (Russian Federation) said that the role of the Agency within the international nuclear non-proliferation regime was continuing to increase in importance and that the Agency was doing more and more to help Member States enjoy the benefits of the peaceful uses of nuclear energy, including nuclear power generation. However, although the "Cold War" had ended some years previously there were many issues relating to the strengthening of peace and to strategic stability still to be resolved - and new challenges had emerged, particularly that of meeting the very real danger of international terrorists acquiring weapons of mass destruction or the materials and technological skills necessary for making such weapons. His country believed that such challenges should be met through active co-operation among all countries on the basis of international law and through strengthening of the international regime of which the NPT was a major element.

131. Almost all countries were now parties to the NPT, which, in his country's view, remained the most effective international legal instrument for countering the threat of nuclear weapons proliferation and a factor of great importance for both global and regional stability. Unfortunately, however, the NPT was currently under serious strain. His country therefore attached particular importance to the preparations being made for the 2005 NPT Review Conference, believing that the preparatory process should be used to strengthen the NPT and the international nuclear non-proliferation regime. The Agency, with its well-deserved reputation for professionalism and impartiality, could play an important role in that process.

132. Russia had demonstrated its commitment to nuclear disarmament and to negotiations in the spirit of Article VI of the NPT by ratifying the Strategic Offensive Arms Reduction Treaty, the implementation of which was to reduce the numbers of the nuclear warheads in Russia and the United States to 1700-2000 by 31 December 2012.

133. His country, which attached great importance to the Agency's safeguards system, would like to see all States parties to the NPT concluding additional protocols - especially the non-nuclear-weapon States engaged in significant peaceful nuclear activities involving nuclear fuel cycle facilities.

134. In the present situation, it was impossible to overemphasize the importance of co-ordinating international efforts to eliminate the risk of nuclear terrorism. In the light of decisions taken by the G-8 leaders at their summit meetings in Kananaskis, Canada, and Evian, France, about preventing terrorists and their accomplices from gaining access to weapons of mass destruction, his country believed that the Agency activities directed against nuclear terrorism deserved strong support. States should, with the assistance of the Agency, eliminate the possibility of acts of nuclear terrorism by improving the physical protection of nuclear materials and facilities, preventing illicit trafficking in nuclear materials,

strengthening national systems of nuclear material accounting and control, and increasing the safety and security of ionizing radiation sources.

135. In May, his Government had approved an energy strategy for the period until 2020 that foresaw nuclear power generation as the principal means of meeting Russia's growing demand for electricity during that period. Against that background, Russian specialists were looking into the technical feasibility and cost-effectiveness of measures to improve the safety of existing power reactors and extend their service lifetimes. Accordingly, they welcomed the recently initiated extrabudgetary Agency programme on safety aspects of the long-term operation of PWRs. In their view, extending the service lifetimes of existing power reactors would facilitate the transition to new nuclear power technologies, with fast reactors replacing thermal ones.

136. Large-scale R&D conducted with a view to securing the future of nuclear power was best conducted as an international co-operative effort, with a number of countries pooling resources. INPRO and the Generation IV International Forum were good examples of such an effort, and his country would welcome constructive practical interaction between the two.

137. Following the completion of INPRO Phase 1A, there was to be a test of INPRO methodology at Russia's BN-800 fast reactor.

138. The Russian Federation, which attached great importance to the Agency's activities directed towards strengthening nuclear and radiation safety and waste management, welcomed the revised Code of Conduct on the Safety and Security of Radioactive Sources and looked forward to the Board's consideration of a revised draft code of conduct for the safety of research reactors.

139. The International Conference on Security of Radioactive Sources held in Vienna in March 2003, co-sponsored by the Governments of the Russian Federation and the United States of America and organized by the Agency, had been very important for future international co-operation in strengthening nuclear and radiation safety and the security of radioactive materials.

140. His country looked forward to further close co-operation with the United States and the Agency within the framework of the tripartite initiative for securing radioactive sources in countries of the former Soviet Union - an initiative that was benefiting greatly from the support of the Director General and the United States Secretary of Energy.

141. In May 2003, after almost five years of negotiations between the Russian Federation and a group of Western contributors, the Multilateral Nuclear Environmental Programme for Russia (MNEPR) agreement had been signed in Stockholm. The purpose of the MNEPR was to support co-operation relating to spent nuclear fuel safety, radioactive waste management and the dismantling of nuclear-powered submarines and icebreakers in the Russian Federation. The MNEPR laid the basis for the implementation of projects by Western countries in the north-west of the Russian Federation - for example, urgent projects covered by bilateral and multilateral aid programmes such as the "Nuclear Window" of the European Union's Northern Dimension Environmental Programme.

142. According to Agency information, more than 200 000 tons of irradiated nuclear fuel had accumulated worldwide since the beginning of nuclear power generation, and it was therefore high time to consolidate the efforts of various countries directed towards solving the common problem of managing irradiated fuel rationally and safely. In that context, the Russian Federation welcomed the Director General's idea of establishing a group of experts to evaluate, under the Agency's auspices, different approaches to that problem.

143. In recent years, the question of radioactive material transport had been attracting more and more attention. Although the Russian Federation did not think that the technological aspects of the question should give grounds for concern, it was grateful to the Agency for convening the International

Conference on the Safety of Transport of Radioactive Material held in July. It hoped that the discussions during the Conference would help to allay certain concerns about the international transport of radioactive material by rail and by sea.

144. A pressing international issue was that of preserving the knowledge accumulated in the field of nuclear science and technology, and his country was pleased that the Agency was attracting public attention to the issue and trying to resolve it through international co-operation.

145. The Russian Federation considered technical co-operation to be one of the Agency's top priorities, and it welcomed the Secretariat's efforts to make the Agency's technical co-operation programmes an efficient means of ensuring sustainable economic and social development.

146. On 27 June 1954, not long after President Eisenhower's "Atoms for Peace" speech, the world's first nuclear power reactor had been commissioned - in Obninsk. That reactor, operating for almost 50 years, had demonstrated the technical feasibility and viability of nuclear power generation. In 2004 the Russian Federation would be hosting an international conference on "Fifty Years of Atomic Power", to be organized with the participation of the Agency. He hoped that many other General Conference delegates would attend that conference.

147. Mr. HOSODA (Japan) said that the DPRK nuclear issue had been raising international tension since October 2002. Japan, which had for a long time been financially and technically supporting the KEDO light-water reactor project in order to help the DPRK meet its energy needs, regretted that the DPRK remained in non-compliance with its safeguards agreement with the Agency and was proceeding with the development of nuclear weapons. The issue was a critical one for both regional and global peace and stability.

148. As a neighbour of the DPRK, Japan would under no circumstances accept the development, acquisition, possession, testing or transfer of nuclear weapons by the DPRK, which should immediately and completely abandon any nuclear weapons and nuclear weapons programmes in a verifiable and irreversible manner. It believed in verification in connection with the DPRK nuclear issue and would continue to support the Agency's verification efforts.

149. The six-party talks held recently in Beijing had been an important starting point for a meaningful process leading towards a peaceful resolution of the issue, and it was essential to continue that process.

150. The issue of the implementation of the NPT safeguards agreement with the Islamic Republic of Iran had become increasingly serious. The international community was deeply concerned about that issue, and Japan would like to see the Islamic Republic of Iran co-operating fully with the Agency in resolving it promptly and unconditionally, concluding and fully implementing an additional protocol to the NPT safeguards agreement. Japan expected the Islamic Republic of Iran to take, by the end of October 2003, all the actions called for by the Board in the resolution it had adopted on 12 September 2003.

151. Japan, which remained unshakeably committed to the NPT regime, would fulfil its obligations under its NPT safeguards agreement with the Agency and the additional protocol to that agreement, ensuring full transparency in its nuclear activities, including the utilization of plutonium.

152. Japan was the only country in the world to have suffered devastation caused by nuclear weapons, and its Atomic Energy Basic Law strictly limited the use of nuclear energy in Japan to peaceful purposes. The Japanese Government was a firm adherent to a long-standing policy whereby Japan would not produce or possess nuclear weapons or permit their introduction into Japan. That policy would not change.

153. As a nation with insufficient energy sources, Japan continued to attach high priority to nuclear power generation. It aimed to establish, with enhanced public understanding, a nuclear fuel cycle in which safety and non-proliferation were ensured.

154. The falsification of self-inspection records by a Japanese co-operator, made public in August 2002, had seriously damaged public confidence in nuclear safety. In response, the Japanese Government had drastically revised its nuclear safety regulations in order to enhance Japan's nuclear safety culture.

155. Thermonuclear fusion was a promising future source of practically unlimited energy, and the International Thermonuclear Experimental Reactor (ITER) project represented a major step towards achieving thermonuclear fusion. Japan had proposed a candidate site for ITER, and it would continue to actively support the ITER project.

156. In view of recent problems related to the NPT regime, the Agency's safeguards system needed to be strengthened. To that end, the universalization of additional protocols should be promoted. So far, 74 States had signed an additional protocol, but only 35 had brought one into force. That was far from satisfactory, and Japan would like to see far more States concluding additional protocols. The International Conference on Wider Adherence to Strengthened IAEA Safeguards, held in Tokyo in December 2002, had been very successful, reaffirming the importance of additional protocols. The Conference Chairman's summary had contained a proposal for a series of actions designed to achieve wider adherence to strengthened Agency safeguards. In keeping with the Conference's outcomes, Japan would continue to promote the universalization of additional protocols.

157. Nuclear security had become an important issue for the international community since 11 September 2001, as evidenced by the International Conference on Security of Radioactive Sources held in March and by the G-8 Evian Summit in June. Japan was continuing to take appropriate measures in the nuclear safety area, and it expected the international community to work on improving the management of radioactive sources and to support the Agency's vital efforts in that connection. It would like to see many Member States implementing the revised Code of Conduct on the Safety and Security of Radioactive Sources and reflecting it in their legislation.

158. The smooth and safe transport of nuclear materials was essential for the peaceful use of nuclear energy. Nuclear material transport had always been carried out in conformity with the strictest safety standards, established by international organizations such as the International Maritime Organization and the Agency, and on the basis of the principles of freedom of navigation recognized under relevant international laws. The International Conference on the Safety of Transport of Radioactive Material held by the Agency in July had contributed to further enhancing the safety of nuclear material transport. In view of the importance of the issue, Japan was considering the acceptance of a TranSAS mission.

159. The international community must increase the effectiveness of nuclear non-proliferation. Political appeals were not enough; the Agency must be provided with adequate financial resources. Japan, which recognized the importance of the Agency's safeguards activities, had therefore, as a very exceptional measure, supported the proposed Regular Budget increases for 2004-2005. Efficiency was also important, however, and in July, when the Regular Budget had been agreed on, it had also been agreed that the Secretariat should review the cost-effectiveness of Agency safeguards. Japan looked forward to the early application of integrated safeguards in those countries which met the relevant criteria and to visible efforts by the Secretariat - with tangible results - to increase safeguards efficiency.

160. The peaceful use of nuclear energy could greatly contribute to the welfare of mankind while reducing the burden on the environment. However, challenges to the NPT regime and Agency

safeguards had surfaced. Against that background, the Agency's activities in promoting both the peaceful use of nuclear energy and nuclear non-proliferation were particularly important. Japan would continue lending its full support to those activities.

161. Mr. ABRAHAM (United States of America) began his statement by reading out the following message from President Bush:

“I send greetings to those gathered at the 47th conference of the International Atomic Energy Agency (IAEA).

“Almost 50 years ago, President Eisenhower proposed the Atoms for Peace initiative, which established the principles that all nations must work to stem nuclear proliferation and that all responsible nations should enjoy the peaceful benefits of nuclear power and technology under sound non-proliferation conditions. Since 1957, the IAEA has been the center of international efforts to turn these principles into practice.

“Though the world has changed, and the roles of IAEA Member States have changed with it, the ideas of non-proliferation and peaceful nuclear power remain unchanged. The work of preventing nuclear proliferation has taken on a sense of great urgency. Today, as some States are seeking to acquire nuclear weapons, we must uphold our great responsibility to ensure full compliance with the Treaty on the Non-proliferation of Nuclear Weapons. With co-operation and strong leadership, we can combat the threat of nuclear proliferation and advance safety and security for people throughout the world.

“Best wishes for a successful conference.”

162. During the past 50 years, the world had enjoyed enormous benefits from an impressive array of peaceful nuclear applications. However, such benefits remained linked to the obligation to use nuclear energy responsibly. Dramatic changes in the security environment now jeopardized them.

163. Two years previously, shortly after 11 September 2001, he had spoken to the General Conference about the need for Member States to increase their efforts to address terrorist threats. There was reason to be proud of what had been accomplished since then. For example, the Agency had established a nuclear security plan of action and a Nuclear Security Fund, and the efforts to secure nuclear facilities worldwide had been accelerated.

164. The international community had responded well to the need to address the threats posed by high-risk, under-secured radioactive sources, material that could be used in “dirty bombs”, as evidenced by the many initiatives undertaken by the Agency since the International Conference on Security of Radioactive Sources held in March.

165. Good progress was being made in the bilateral co-operative non-proliferation efforts of Russia and the United States. He and the Russian Minister for Atomic Energy, Mr. Rumyantsev, had together overseen efforts to - inter alia - reduce potential threats from under-secured nuclear materials in Russia and shut down Russian reactors still producing plutonium that could be used in nuclear weapons.

166. Such efforts were making the world more secure, but the non-proliferation regime was facing serious challenges from a few rogue States seeking a capability for attaining weapons of mass destruction (WMDs) and from those States which were facilitating their search or often appeared indifferent to it. Sophisticated terrorist organizations were also pursuing WMD capabilities, and illicit efforts to acquire nuclear and radiological weapons technologies and materials continued to be reported.

167. There was a need to build on the successes of the past and overcome the challenges of the present, in order to expand and sustain humankind's ability to enjoy the benefits of peaceful nuclear co-operation. Strengthening the non-proliferation regime was extremely important in that connection.

168. First, the safeguarding and physical protection of nuclear materials must be further strengthened. His Government welcomed the recommendation made by the Board of Governors for an increase the Agency's budget, primarily in support of the Agency's verification activities, and President Bush had requested an increase of \$10 million in the Department of Energy's budget in order to support safeguards in the coming year.

169. In 2002, President Bush had forwarded to the United States Senate, for ratification, the additional protocol to the safeguards agreement between the United States and the Agency. The Senate intended to hold hearings soon regarding the additional protocol - an essential step towards making strengthened safeguards a reality in the United States. Other Member States needed to act as well.

170. Second, trafficking in nuclear and other radioactive materials and in nuclear technologies for weapons purposes must be prevented. The Proliferation Security Initiative was an important step in that regard, and the United States would like to see that initiative supported by all States that shared its concerns about the proliferation of WMDs.

171. However, more must be done. Export control systems must be strengthened, and President Bush had proposed a \$6 million increase in the Department of Energy's export control budget, the additional funding to be used in helping to train and better equip customs guards and other border officials at home and abroad, in helping to develop new means of detection, and in supporting many other steps.

172. During that week, he and his Chinese counterpart would sign a "Statement of Intent" regarding an exchange of non-proliferation assurances in connection with the transfer of nuclear technology. That would help China and the United States to realize the benefits of peaceful nuclear co-operation while ensuring that the co-operation took place within the context of strong non-proliferation commitments.

173. In addition, the United States would assist the Netherlands with the installation at the Rotterdam seaport of equipment to screen for nuclear and other radioactive materials. Other States were considering the installation of such equipment, and still others should be doing so.

174. Third, it was necessary to improve the security of research reactors and of other facilities where nuclear and non-nuclear radioactive materials might be co-located. Such facilities, which often supported legitimate peaceful applications of nuclear technology, could be vulnerable to sabotage, theft or attack if not adequately protected.

175. The United States was responding to that problem. In Romania, it would be providing up to \$4 million towards the purchase of low-enriched uranium fuel to be substituted for the highly enriched uranium fuel in the Pitesti research reactor. That exemplified what must be done to improve materials security without sacrificing the peaceful benefits of nuclear technology, and the United States strongly endorsed the Agency's efforts in that connection.

176. To begin or accelerate the initiatives that he had described, the United States would contribute an additional \$3 million to the Agency's Nuclear Security Fund, and it would like to see many Member States following suit to the extent they were able.

177. Those were practical steps that could be taken in order to address a number of serious proliferation concerns. There was a broader context, however, and responsible members of the international community should be concerned about the threats from a few States whose actions could undermine the non-proliferation regime.

178. "Atoms for Peace" had been an initiative of the United States from which enormous benefits had accrued. The United States remained strongly committed to its objectives and to working within its parameters.

179. The NPT was being challenged, however, and the international community must take strong measures to impede the efforts of those who were determined to undermine it. It must deal immediately and effectively with any State seeking to exploit the NPT for its own advantage and ignoring the letter and/or the spirit of its obligations under the NPT.

180. The DPRK was one such State, but he was confident that progress would be made in dismantling its nuclear weapons programme in the context of the six-party approach recently initiated in Beijing. However, it was necessary to consider why the DPRK had been able to make so much progress in its nuclear weapons programme while a party to the NPT.

181. The DPRK's activities sent to other would-be proliferants the message that a State could be a party to the NPT, enjoying its benefits, and still put in place the assets needed in order to break out of the NPT and pronounce itself a nuclear-weapon State. That was the wrong message, and the associated chain of events must not be allowed to happen again. All States that supported the non-proliferation regime and enjoyed the peaceful benefits deriving from it should take a clear look at the problem posed by proliferant States attempting to flout the NPT and should address that problem realistically and with determination.

182. The United States was pleased with the resolution that had been adopted by consensus in the Board of Governors on 12 September 2003. That resolution had made it clear that the international community would not tolerate erosion of the non-proliferation regime, that the Islamic Republic of Iran had not responded to repeated calls for co-operation and transparency, and - most importantly - that the DPRK precedent was unacceptable and Member States were prepared to take firm action in the face of serious challenges to the non-proliferation regime.

183. Fifty years earlier, President Eisenhower had declared that "if a danger exists in the world, it is a danger shared by all; and equally, if a hope exists in the mind of one nation, that hope should be shared by all." Those words were still true and should guide the choices made in the pursuit of the peaceful uses of nuclear energy.

184. Mr. ANTONIONE (Italy) - speaking on behalf of the European Union, of the acceding countries Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia, of the associated countries Bulgaria, Romania and Turkey, and of Norway and Iceland - expressed sorrow at the cowardly assassination days earlier of the Swedish Minister of Foreign Affairs, Anna Lindh.

185. In June, the Heads of State and Government of the European Union, meeting in Thessaloniki, had reiterated their commitment to preventing the proliferation of WMDs. As regards nuclear weapons, the European Union considered a global nuclear non-proliferation regime supported by a strong system of international safeguards to be an essential prerequisite for collective security. The NPT was the cornerstone of such a regime, and the Agency's safeguards system an essential element. Recent challenges to the NPT and the nuclear non-proliferation regime had again highlighted the need for full compliance with NPT obligations and for strong efforts to achieve universal adherence to the regime.

186. In April, the Preparatory Committee for the 2005 NPT Review Conference had underscored the responsibility of the Agency for further strengthening its safeguards system. The Preparatory Committee's position was shared by the European Union.

187. The universal adoption and implementation of safeguards agreements with their additional protocols were essential for the effectiveness and credibility of the Agency's safeguards system. In particular, the measures provided for in additional protocols were crucial to the detection by the Agency of undeclared nuclear material and activities and to the Agency's ability to provide assurances regarding the absence of such material and activities.

188. The European Union regretted the fact that the number of safeguards agreements and additional protocols in force continued to be far below expectations. All Member States of the European Union had signed additional protocols, which they had ratified or were in the process of ratifying. They were determined to bring those additional protocols into force before the end of the year. The European Union would like to see many more countries signing additional protocols.

189. The European Union would also like to see the Secretariat further intensifying its co-operation with Euratom, especially with a view to the implementation of integrated safeguards within the European Union. In addition, it hoped that other States and regional groups would increase their co-operation with the Agency in the safeguards field.

190. The European Union, which strongly supported all measures aimed at preventing terrorists from acquiring nuclear weapons, believed that, while the primary responsibility for nuclear security rested with States, the Agency had an essential role to play in combating nuclear terrorism. After 11 September 2001, the Agency had promptly reoriented and stepped up its activities relevant to combating nuclear terrorism, and the European Union welcomed what had been achieved. It also welcomed the contributions which had been made to the Nuclear Security Fund.

191. The Director General and the Secretariat were to be commended for helping Member States to establish and maintain stringent nuclear security frameworks.

192. The European Union welcomed the decision taken by the Board in March 2002 under the agenda item "Protection against nuclear terrorism", which had paved the way for much greater international co-operation under Agency coordination. It also welcomed the progress made in carrying out activities relevant to protection against nuclear terrorism - expanding activities being carried out mainly in support of national measures. In that context, it had noted the important role being played by Agency technical co-operation activities in upgrading safety and security.

193. The European Union welcomed the increase, to 87, in the number of States parties to the Convention on the Physical Protection of Nuclear Material, but it would like to see far more States becoming parties. It also welcomed the Agency's activities in support of States' efforts to combat illicit trafficking in nuclear and other radioactive material, but it would also like to see far more States taking appropriate measures against illicit trafficking in such material.

194. The European Union was grateful to the Co-Chairmen of the Informal Open-Ended Working Group on the Programme and Budget for 2004-2005, which had succeeded in producing a compromise package that would lead to substantial budgetary increases in 2004 and 2005. The Member States of the European Union could go along with the compromise package because they were aware of the Agency's unavoidable future financial needs - mainly for verification activities.

195. The European Union appreciated the work done by the Secretariat with a view to the introduction within the Agency of a single-currency system based on the euro by 2006.

196. The European Union greatly appreciated the actions taken by the Agency in continuing to verify nuclear material in Iraq, including the mission which had focused on verification of the material subject to safeguards at Tuwaitha, where looting had reportedly taken place. In resolution 1483 (2003), the United Nations Security Council had underlined its intention to revisit the mandate which it had assigned to the Agency with regard to Iraq. While looking forward to the Security Council

review of that mandate, the European Union wished to recall that, irrespective of the outcome, the Agency would still have the obligation, under Iraq's NPT safeguards agreement, to check that Iraq possessed no proscribed nuclear material.

197. The European Union, which was increasingly concerned about the nuclear programme of the Islamic Republic of Iran, wished to see that country co-operating fully with the Agency and meeting all the requests made of it by the Board. The prompt and unconditional signing, ratification and implementation of an additional protocol would be regarded as a sign of Iranian commitment to nuclear non-proliferation

198. The Islamic Republic of Iran had failed to fulfil many of its obligations under its safeguards agreement with the Agency. The delay in informing the Agency about the full extent of its nuclear programme, the undeclared receipt of nuclear material, the failure to declare the facilities where that material was stored and being processed, the introduction - despite a Board request - of nuclear material into the pilot facilities at Natanz, and the presence of undeclared highly enriched uranium were all grounds for grave concern.

199. The Iranian authorities should, as a confidence-building measure, halt all enrichment-related activities until the Agency had resolved the issue of the undeclared highly enriched uranium and suspend any reprocessing activities that might be taking place. In addition, they should help to further clarify the questions relating to the importation of sophisticated equipment during the 1980s, to heavy water projects and to the production of uranium metal.

200. The European Union, which greatly appreciated the Director General's efforts to resolve the outstanding issues connected with the nuclear programme of the Islamic Republic of Iran, would like to see that country taking all the steps necessary in order to ensure the total transparency of its nuclear programme and to restore the confidence of the international community.

201. WMDs were an issue of concern in the political dialogue between the Islamic Republic of Iran and the European Union, the progress of which would have implications for the economic relations between them. It was in the interest of the Islamic Republic of Iran to abide by the peace and security norms applied internationally.

202. The European Union, which had many times expressed its grave concern about the continued failure of the DPRK to fully implement its comprehensive safeguards agreement with the Agency, deplored the DPRK's decision to withdraw from the NPT. The DPRK should completely dismantle its nuclear weapons programme in a verifiable and irreversible manner and fulfil its NPT obligations, which still stood. Only strict observance of the NPT, including acceptance of the full implementation of comprehensive Agency safeguards, could provide the necessary assurances about the DPRK's desire for positive international relations.

203. The Board of Governors had reported to the United Nations Security Council that the DPRK was still not complying with its NPT safeguards agreement, and the European Union was alarmed that the Agency was still unable to verify the completeness and correctness of the initial declaration made by the DPRK regarding the nuclear material in its possession. Nevertheless, the European Union was in favour of a continuation of the dialogue taking place among all the interested parties. Thus, it welcomed the two meetings held recently in Beijing with a view to arriving at a negotiated solution to the DPRK nuclear issue and hoped that all those involved in those meetings would pursue negotiations in good faith. Above all, the DPRK should fully and unconditionally meet all its relevant international obligations, especially those arising out of its NPT safeguards agreement with the Agency.

204. The Agency, in playing an essential role as the competent authority for verifying compliance with safeguards agreements, had earned the trust of the international community. In addition, the

Agency was playing an essential role by promoting safety in the use of nuclear technology for peaceful purposes in those Member States which chose to use such technology. The European Union and the acceding States would continue to support the Agency in the performance of its statutory functions.

205. Mr. AGHAZADEH (Islamic Republic of Iran), recalling that on 12 September the Board of Governors had adopted a resolution relating to his country's nuclear programme, said that his delegation objected not only to the content of the resolution but also to the manner in which it had been developed and negotiated. The resolution went beyond the letter and the spirit of the NPT and the Agency's Statute, and even beyond the provisions of the additional protocol which his country was currently negotiating. The Iranian delegation had been unable to associate itself with the resolution, which had been pushed to a decision through the attribution to the Secretariat of opinions that it did not hold, through arm-twisting in many capitals and through the disregarding of views expressed and amendments proposed by 15 members of the Non-Aligned Movement and by others, including some co-sponsors of the draft resolution. The entire exercise had been an example of unilateralism at its worst - namely, unilateralism wearing a multilateralist cloak.

206. His country believed that there was more to the resolution than met the eye - that there was an underlying agenda directed towards an escalation of tension and chaos for the purpose of diverting attention from serious issues of partisan politics in the United States. The heavy-handed approach adopted in pushing through the resolution cast serious doubt on the resolution's practical usefulness; one could not help feeling that the resolution had been formulated in such a way as to guarantee its non-implementation or at best its semi-implementation, rather than to promote the effectiveness of the non-proliferation regime. The resolution was inconsistent with the NPT, set a deadline for co-operation and contained venomous language - all very problematic features. His authorities, whose preliminary views he had just expressed, were studying the resolution carefully and would respond to it officially within a few days.

207. Meanwhile, he considered it important to underline that:

- his country was fully committed to the NPT not only because of the obligations which it had assumed pursuant to it, but also on religious and ethical grounds;
- for strategic reasons, his country's policies and actions were geared to strengthening the safeguards regime;
- his country, in planning to develop a nuclear power generation capacity of 7000 MW(e), wished to help strengthen the safeguards regime by concluding an additional protocol or taking some other action that would encourage the international community to seriously urge others in the Middle East to respond positively to his country's initiative aimed at making the Middle East a nuclear-weapon-free zone;
- the efforts of his country to resolve outstanding issues through steadily increasing co-operation between it and the Agency were being opposed by parties seeking to disrupt that co-operation;
- the resolution adopted by the Board was counter-productive in that it had interrupted a process which would undoubtedly have resulted in full transparency and a restoration of confidence;
- his country was willing to seek ways of salvaging that process and keeping the issue under consideration within the framework of the Agency, under the direction of the Director General, account being taken of the interpretation placed by most Board members on the resolution;

- his country, as a party to the NPT, had an undeniable right to use nuclear technology for peaceful purposes;
- his country would continue to co-operate with the Agency within the framework of comprehensive safeguards; and
- his country would, as already stated by the Iranian Government, continue negotiating with the Agency on the additional protocol.

208. The Islamic Republic of Iran firmly believed that the only way to counter challenges emanating from the nuclear arsenals of the nuclear Powers and from the proliferation of nuclear weapons was to strengthen the relevant international instrument through multilateral, comprehensive and non-discriminatory efforts, and that the NPT was the cornerstone of international efforts to achieve complete nuclear disarmament and halt vertical and horizontal nuclear proliferation. The essential question remaining was which country would accept the blame for providing Israel with nuclear weapons in contravention of its relevant NPT obligations.

209. The effectiveness of the NPT depended on full compliance with all its provisions by all parties. The credibility of the NPT would be undermined by selective and discriminatory approaches to its implementation.

210. Mr. GOFF (New Zealand) associated himself with the European Union's expression of sorrow at the assassination of Anna Lindh, the Swedish Minister of Foreign Affairs.

211. The prospect of terrorists gaining access to nuclear weapons was a horrifying one, and the risk of terrorists doing that could not be taken lightly. The Agency was engaged in valuable work directed against nuclear terrorism, through a programme financed from its Nuclear Safety Fund, to which New Zealand had made two contributions.

212. Under that programme, training in the control of radioactive sources was being conducted and States were being provided with effective tools for combating illicit trafficking in nuclear material.

213. The International Conference on Security of Radioactive Sources held in Vienna in March 2003 had - inter alia - underlined the importance of effective national nuclear regulatory structures and raised the profile of the Code of Conduct on the Safety and Security of Radioactive Sources, which had been revised in order to take greater account of the danger of radioactive sources falling into the hands of terrorists. New Zealand intended to fully implement the Code of Conduct as soon as possible.

214. As one of the first countries to sign the NPT, New Zealand was deeply concerned about the announcement by the DPRK that it was withdrawing from the NPT. The development of nuclear weapons by the DPRK was destabilizing the Korean Peninsula and threatening regional security. Also, it might prompt other countries in that part of the world to develop nuclear weapons, opening up - as in South Asia - the possibility of nuclear confrontation. New Zealand welcomed the recent multilateral talks on the DPRK nuclear issue and hoped that the process of dialogue would continue, leading to an agreement which would result in the permanent abandonment by the DPRK of its nuclear weapons and the renewal of energy and development assistance to the DPRK. China was to be commended for the constructive role which it was playing in facilitating the process of dialogue.

215. New Zealand was greatly concerned about the nuclear programme of the Islamic Republic of Iran. Given the scope and advanced state of that programme, it was important that the Agency be able to verify that the intentions of the Islamic Republic of Iran were peaceful. The Islamic Republic of Iran should, as a matter of urgency, co-operate fully with the Agency and demonstrate complete transparency in order that the Agency might provide the independent assurances which the international community needed.

216. The NPT envisaged not only that States would forego the development of nuclear weapons but also that those States which already possessed nuclear weapons would give them up; it provided for nuclear disarmament, and the nuclear disarmament commitment made by the nuclear-weapon States - and reaffirmed unequivocally at the 2000 NPT Review Conference - should be honoured. Appeals by nuclear-weapon States to other States not to develop nuclear weapons would carry more moral authority if accompanied by greater progress in the field of nuclear disarmament.

217. The current development of strategic plans which appeared to envisage the possible use of nuclear weapons was a matter for great concern, and research into new types of nuclear weapons would run counter to the NPT and undermine the efforts being made to achieve universal adherence to it.

218. The early entry into force of the CTBT was the first of the 13 practical steps to nuclear disarmament agreed at the 2000 NPT Review Conference. New Zealand was very concerned about the fact that the prospects for the CTBT's entry into force had not improved. Pending the entry into force of the CTBT, for which New Zealand would continue to press, it was important that the work on establishing an international monitoring system continue. Even if the CTBT was not in force, a network of monitoring stations was essential for exposing any State which resumed nuclear weapons tests.

219. The Pacific Forum, which New Zealand was currently chairing, had repeatedly expressed concern about the risks to populations and the environment associated with the maritime transport of radioactive material and had called for a strict regulatory regime and for a comprehensive liability regime that met the needs of all. New Zealand welcomed the outcomes of the International Conference on the Safety of Transport of Radioactive Material held in Vienna in July, which had recommended the establishment of a dialogue between the shipping States and the relevant coastal States on communication between governments and the setting up of a working group on liability. It hoped that real progress would be made in the months to come.

220. New Zealand greatly appreciated the professionalism displayed by the Director General and his staff during the past year, which had been a difficult one, and particularly the manner in which the Director General had carried out his responsibilities - sometimes under extraordinary pressure. It was confident that the Director General would provide strong leadership and demonstrate sound judgement also in the future.

221. With the current instabilities as regards global security, the coming year was also likely to bring many challenges for the Agency. He therefore wished to emphasize that New Zealand remained strongly committed to the Agency, which was making an indispensable contribution to the multilateral disarmament and non-proliferation system.

The meeting rose at 12.50 p.m.