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President: Mr. CHO (Republic of Korea)
Later: Ms. HALL (Canada)
Mr. RÓNAKY (Hungary)

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The composition of delegations attending the session is given in document GC(48)/INF/16/Rev.1

[*] GC(48)25.

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Abbreviations used in this record:

AFRA	African Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology
ARCAL	Cooperation Agreement for the Promotion of Nuclear Science and Technology in Latin America and the Caribbean
CANDU	Canada deuterium-uranium [reactor]
CPF	Country Programme Framework
CPPNM	Convention on the Physical Protection of Nuclear Material
CTBT	Comprehensive Nuclear-Test-Ban Treaty
DPRK	Democratic People's Republic of Korea
G-8	Group of Eight
INSARR	Integrated Safety Assessment of Research Reactors
MESA	Middle East and South Asia
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 Cooperation and Development
RCA	Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology (for Asia and the Pacific)
RIA	radioimmunoassay
SEAP	South East Asia and the Pacific
SIT	sterile insect technique
TCF	Technical Cooperation Fund
Tlatelolco Treaty	Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean
TranSAS	Transport Safety Appraisal Service

7. General debate and Annual Report for 2003 (continued) (GC(48)/3)

1. Ms. STOKES (Australia) said that, through their adherence to the NPT, the great majority of the Agency's Member States had committed themselves to cooperating with each other on peaceful nuclear applications. Member States that violated their safeguards obligations had to recognize that their actions adversely affected the scope for peaceful nuclear cooperation. The spread of proliferation-sensitive nuclear technologies also had serious implications for the non-proliferation regime and her country welcomed the Director General's initiative to establish a group to examine ways of controlling sensitive nuclear technologies.

2. The Agency's safeguards system was facing challenges and all Member States had to help ensure the effectiveness and integrity of safeguards. Resolute action should be taken in cases of non-compliance and the Agency should send an unambiguous message demonstrating that any efforts to acquire nuclear weapons capability would not be tolerated. Like others, her country was of the view that a comprehensive safeguards agreement with an additional protocol was now the safeguards standard required of non-nuclear weapon States under Article III of the NPT, and any nuclear supply activities should be made conditional on having an additional protocol in force by the end of 2005 at the latest. She urged those States that had not yet done so to sign and ratify an additional protocol as soon as possible.

3. Recent events served as a sharp reminder of the continuing threat of covert nuclear proliferation and she commended the Agency on its work to unravel clandestine proliferation networks. Australia welcomed the adoption of United Nations Security Council resolution 1540 which, inter alia, required all States to establish controls on relevant items and technology to prevent the proliferation of weapons of mass destruction. All Member States should comply with the provisions of that resolution and the Security Council should be more active in upholding nuclear non-proliferation and responding to breaches in safeguards obligations.

4. The potential acquisition of nuclear material and know-how by terrorists remained a serious concern. Her country welcomed the high rate of project implementation under the Nuclear Security Fund but remained concerned about the voluntary, and thus unreliable nature of the funding for those important activities.

5. Effective multilateral diplomacy was central to the promotion of international peace and security and the Agency had a key role to play in that area. She commended Libya for its historic decision, taken after decades of isolation, to renounce weapons of mass destruction. That country's cooperation had enabled the Agency to verify the accuracy of its declarations, and information about Libya's past nuclear activities had played a key role in uncovering clandestine procurement networks. She called upon other States to cooperate fully in Agency investigations. The Australian Foreign Minister had visited the DPRK in August to urge that country's leadership to disclose fully and dismantle its nuclear programmes. The continued pursuit of nuclear weapons would drive the DPRK deeper into international isolation and it should take the opportunity to change its course in a way that would add to, rather than diminish, its security. Iran was at a key point in its cooperation with the Agency. Successive reports had highlighted repeated serious failures by Iran to comply with its safeguards obligations. Although Iran had taken steps towards greater transparency and cooperation, more remained to be done. Iran had to be completely transparent and committed to its international obligations. It should cooperate fully with the Agency to resolve outstanding questions, ratify its additional protocol without delay and suspend all enrichment and reprocessing-related activities as a confidence-building measure.

6. Australia valued the Agency's efforts to develop and promote effective international instruments to enhance nuclear safety and security. In particular, it welcomed the recent progress on outstanding issues regarding the CPPNM, supported the proposed amendments and had requested the Director General to convene a diplomatic conference with a view to their consideration.

7. Her country attached great importance to concerted and cooperative action to ensure effective control over the movement and use of radioactive sources. The recently approved Guidance on the Import and Export of Radioactive Sources supplementary to the Code of Conduct on the Safety and Security of Radioactive Sources should significantly reduce the possibility of loss of control over sources and provide a framework for continued beneficial applications in health care, research, industry and environmental protection. Harmonized implementation of the Guidance was vital. Australia was committed to implementing the Guidance from 31 December 2005 and hoped that other Member States would be in a position to do likewise.

8. Australia hoped that the explanatory texts on the international nuclear liability regime would assist discussions on the transport of radioactive material. Having acknowledged the Agency's work in developing the guidance on the application of the concepts of exclusion, exemption and clearance for radionuclides in commodities, she stressed the need to resolve issues relating to the denial of shipment of radioisotopes for medical purposes.

9. Her country welcomed the adoption by the Board of the Code of Conduct on the Safety of Research Reactors which provided invaluable guidance for the regulation and operation of many such reactors in the world. Australia would be applying the guidance in the Code and urged other countries to do the same.

10. Australia supported the expansion of the safe use of nuclear science and technology applications to help solve the socio-economic problems of Member States. The technical cooperation programme continued to play a key role in that regard, as well as helping maintain nuclear knowledge worldwide. Her country had contributed to technical cooperation activities through the provision of expertise, resources and access to facilities. It had also continued to provide support to the RCA and actively supported the moves aimed at increasing ownership of the RCA programme by Member States. It would be providing 1.42 million Australian dollars over the forthcoming three years for RCA projects aimed at improving regional radiological safety, including the capacity to respond to radiological emergencies.

11. In the context of its support for non-proliferation norms, Australia looked forward to the ministerial meeting to be convened at United Nations Headquarters in New York to launch a joint ministerial statement in support of the CTBT. The early entry into force of that Treaty would constitute a practical step towards achieving nuclear disarmament and non-proliferation objectives.

12. In November, Australia would be hosting a ministerial-level Asia-Pacific conference on nuclear safeguards and security with a view to promoting regional cooperation and understanding and it welcomed the Agency's support for that event. Her country was also providing active support for capacity building in the Asia and Pacific region through the Australian Government's contribution to the G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction, the work of the Australian Safeguards and Non-Proliferation Office to promote best practice in safeguards and physical protection and adherence to the additional protocol, and the initiative of the Australian Nuclear Science and Technology Organisation and the Australian Radiation Protection and Nuclear Safety Agency to secure, protect and regulate radioactive sources in the region.

13. Mr. SANZ OLIVA (Spain) said that the recent series of challenges to the international non-proliferation regime had brought the Agency's safeguards system to the forefront of international attention. The most effective tool the Agency had at its disposal to deal with that threat to international

security was the swift and universal implementation of additional protocols and universal acceptance of the NPT. Happily, the budgetary agreements reached in 2003 had dispelled the financial uncertainty surrounding the application of additional protocols. He welcomed the progress made with the signing and ratification of additional protocols and, notably, the entry into force of the additional protocols of European Union countries on 30 April. Likewise, he welcomed the recent adoption, in countries on the southern shore of the western Mediterranean, of political decisions that paved the way for implementation of the additional protocol throughout the region in the near future and he expressed the hope that similar developments would take place in the eastern Mediterranean. However, at the global level Spain remained deeply concerned that seventeen States with significant nuclear activities had not yet signed an additional protocol.

14. Safeguards activities had been enhanced by the Agency's efforts to strengthen the security of nuclear facilities and material and high-risk radioactive sources. His country welcomed the progress that had been made since the 47th regular session of the General Conference in implementing the action plan to combat nuclear terrorism, as outlined in document GC(48)/6 and the supplementary information to that document placed on the GovAtom website. Spain had actively supported those efforts, inter alia by contributing US $80 000 to the Nuclear Security Fund. Pursuant to General Conference resolution GC(47)/RES/7, Spain had notified the Director General of its commitment to put into practice the guidance contained in the Code of Conduct on the Safety and Security of Radioactive Sources. It was also in favour of holding a diplomatic conference to amend the CPPNM.

15. The Secretariat had made laudable progress in developing, disseminating and implementing safety standards. The action plan for the development and application of Agency safety standards, which had been approved by the Board of Governors in March 2004, should prove most useful in establishing a universal regime for nuclear and radiation safety and security of nuclear and radioactive material and facilities. The Agency should also step up and consolidate its efforts in the safety culture area.

16. The Code of Conduct on the Safety of Research Reactors and the Agency's INSARR service should considerably enhance the safety of, and reduce the risks associated with that type of facility.

17. The Agency was to be congratulated on the excellent outcome of the International Conference on the Safety of Transport of Radioactive Material held in 2003, one of the fruits of which had been the Action Plan for the Safety of Transport of Radioactive Material approved by the Board in March 2004, and it was to be commended on the good work of TranSAS.

18. The first review meeting of the Contracting Parties to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management held in 2003 had been a landmark event. The Secretariat was to be congratulated on its efforts, should take note of the lessons learned during that meeting and should strive to incorporate that experience into future activities under the Convention.

19. Spain fully supported the Agency's efforts to integrate environmental protection into radiation protection activities while endeavouring to strike a balance between the level of protection and the resources needed to provide it. Its efforts to promote consensus on that issue through international conferences like the International Conference on the Protection of the Environment from the Effects of Ionizing Radiation, held in Stockholm in 2003, were also praiseworthy.

20. His country also firmly supported the Agency's activities related to radiation safety, radiation safety infrastructure, education, training and knowledge management. In 2003 it had contributed $112 000 for an extrabudgetary project to promote radiation safety in Latin America, which it intended to continue supporting. That project was an initiative of the Ibero-American Forum of Nuclear Regulators and involved experts from Argentina, Brazil, Cuba, Mexico, Chile and Spain who were

working with the Secretariat to develop a prototype system for a Latin American network to facilitate management of knowledge relating to radiation safety in the region.

21. In spite of the financial and other difficulties the technical cooperation programme had faced in 2003, programme delivery and the rate of attainment had increased, the latter falling only slightly short of its target of 90%. Spain had contributed to that achievement by increasing its voluntary contribution to the TCF, making it one of the eight largest contributors. Moreover, over the preceding year, Spanish companies and institutions had received 46 fellows and scientific visitors, had hosted seven training events attended by 79 foreign experts, and had provided 41 experts for missions, as well as offering cost-free waste management experts under an agreement between the Agency and ENRESA, the body responsible for radioactive waste management in Spain. He noted with satisfaction the agreements reached on the financing of technical cooperation and the improvement in management of technical cooperation. The Secretariat should strive to optimize use of resources even further and resource allocation should be weighted more in favour of training than acquisition of equipment.

22. Spain was providing ongoing support to INPRO, inter alia by providing cost-free experts. It attached great importance to that project, since the future of nuclear energy depended on the development of innovative, more competitive and safer technologies that would minimize the risk of proliferation and environmental impact. The Spanish Research Centre for Energy, Environment and Technology hoped to strengthen its already extensive collaboration with the Agency and planned to fund more type II fellowships.

23. In 2003, nuclear power had played a key role in electricity generation in Spain whose nine nuclear power plant units had produced 61 875 GW, or 23.6% of its total electricity output. In the coming years, Spain would have to face the major challenge posed by its rapidly rising electricity demand (6.3% in the preceding year and 31% over the preceding 6 years), the need to meet its environmental commitments and energy supply problems at the international level. Although the Spanish Government was very interested in promoting the use of renewable energy sources, and energy saving and efficiency, the country lacked its own conventional energy sources and nuclear power contributed significantly to the diversification of supply sources, reduction of dependence on energy imports and control of greenhouse gas emissions. The control and monitoring activities conducted by the Nuclear Safety Council showed that safety levels, availability and operating parameters at Spain's nuclear plants were good.

24. Spain's radioactive waste management body, ENRESA, had applied for authorization to expand the El Cabril low- and intermediate-level waste storage facility so that very low level waste could also be stored there. Such waste was generated by decommissioning activities and by accidental melting of radiation sources in recycled scrap. An international symposium on low-level radioactive waste, organized by the Agency in collaboration with the Nuclear Safety Council and ENRESA inter alia, was to be held in Cordoba in December 2004.

25. The owner of the José Cabrera nuclear power plant had applied for authorization to set up a temporary storage facility for irradiated fuel in preparation for the scheduled shutdown of the plant in April 2006. In 2003, ENRESA had opened a technology centre at the site where the Vandellós 1 nuclear power plant was being dismantled to conduct dismantling and waste management activities. That centre should allow projects to be implemented promoted by international bodies and institutions such as the European Union, the OECD/NEA and the IAEA, with the involvement of national and international companies, universities and research institutions. A European regional seminar on the dismantling of nuclear power plants was being held there in the coming week.

26. Mr. CHONG (Singapore) said that recent challenges to the NPT and significantly increased risks of nuclear terrorism had made the Agency's role as a nuclear safety and non-proliferation

watchdog more important than ever. The bargain that lay at the heart of the NPT was that countries would be given access to the benefits of civilian nuclear technology in return for refraining from seeking military applications, and that those already possessing nuclear weapons would work towards disarmament. However, the nuclear powers were not engaging in sustained disarmament efforts. At the same time, according to the Director General, over 40 countries now had the capability, if not yet the inclination, to move directly from a civilian nuclear programme to a military one. There was also the additional concern of radiological or nuclear terrorism by disaffected non-State actors.

27. The unfortunate case of the DPRK gave clear cause for concern. Once a non-compliant party had left the NPT, international law appeared to offer the international community no further means of recourse. Singapore looked forward to the fourth round of six-party talks and hoped that the Agency would soon be in a position to verify all the details of the DPRK's nuclear programme and provide the international community with the necessary assurances regarding non-diversion of nuclear material.

28. He expressed the hope that the Islamic Republic of Iran would fully implement, before the Board's meetings in November, the resolution adopted by the Board of Governors contained in document GOV/2004/79. He also urged Iran to demonstrate that it was committed to fulfilling its international obligations, and to taking the necessary steps to reassure the international community of its peaceful intentions, through full and timely cooperation with the Agency.

29. Furthermore, he noted that the Republic of Korea was working closely with the Agency to clarify the questions about its uranium enrichment experiments and was making a full disclosure of its activities. His country looked forward to the Agency's report on the matter.

30. Nuclear security was an area of key concern for Singapore. Research reactors and other facilities containing nuclear and other radioactive material were highly vulnerable to sabotage, theft or attack if not adequately protected. Efforts to secure and physically protect nuclear material should be further enhanced. The threat of nuclear and radiological terrorism remained real and much work needed to be done in that area, both in developing international guidelines and recommendations and in encouraging their implementation by Member States. In that context, he welcomed the Director General's initiative to expand the scope and accelerate the pace of the Agency's work in nuclear security-related activities.

31. His country strongly urged countries which intended to make use of civilian nuclear technology to adhere strictly to the nuclear safety standards developed by the Agency. Singapore would continue to work closely with the Agency to enhance, harmonize and develop nuclear safety standards and norms and to foster a safety culture among Member States. He expressed concern at the low rates of attainment for the TCF. Singapore had paid its full share of the TCF every year since 1998. Many countries considered technical cooperation in the nuclear field important and it was incumbent upon them to contribute their full shares to the Fund in order to ensure that the Agency had a stable financial base from which to help Member States enjoy the benefits of peaceful nuclear applications.

32. The NPT was the principal safeguard in nuclear matters for small States, which were still the majority of the members of the United Nations. Recent events had shown that the effectiveness of the international non-proliferation regime could not be taken for granted. Compromising the credibility and integrity of the global non-proliferation regime was in nobody's interests. The Member States of the Agency had a responsibility to ensure that the Secretariat was given all the assistance and resources it needed to discharge its mandate under the NPT. Singapore would continue to support the work of the Agency in strengthening the NPT and the associated safeguards systems. He urged all countries to comply fully and transparently with their obligations.

33. Mr. KODAH (Jordan) expressed support for the priorities that Agency had set for the use of nuclear technology in areas that had a direct impact on people's lives such as water supply and

management, health care, agricultural improvements and industrial oversight and control. Water supply was a major problem in many parts of the world, including his own region. Jordan therefore attached particular importance to activities related to water management and the use of multi-purpose medium-sized nuclear reactors for seawater desalination.

34. In the area of health care, Jordan was implementing a number of projects with Agency assistance, for instance on the use of RIA technology for the detection and management of cancer and on the integration nuclear medicine in the national health care system. It was also involved in regional projects related to radiation protection in medicine.

35. Jordan took a keen interest in the safety and security of radioactive sources and nuclear material and in measures to manage radioactive waste. It had issued regulations on radiation protection and the management and processing of radioactive waste and instructions for the transport of radioactive material based on Agency standards and specifications. It had also established facilities for radiological monitoring of trucks entering the country in order to detect any illicitly imported material. He stressed the importance of international coordination to improve the safety and security of radioactive sources, inter alia through national and regional projects supported by the Agency and other relevant organizations.

36. The Agency's comprehensive safeguards system was the cornerstone of the nuclear non-proliferation regime, which was supported by most countries in the world. He urged States that had not yet done so to sign a safeguards agreement with the Agency. Jordan itself had signed the NPT and an additional protocol to its safeguards agreement.

37. His country attached great importance to the application of Agency safeguards to all nuclear activities in the Middle East. He thanked the Director General for the contacts he had established with and the visits he had made to countries in the region and expressed regret that he had been unable to achieve the desired progress. It was essential that Israel accede to the NPT, sign and implement a comprehensive safeguards agreement and an additional protocol, and refrain from any action that was incompatible with that goal. His country had repeatedly expressed its desire to make the Middle East a zone free of weapons of mass destruction, since such a zone would strengthen the non-proliferation regime and promote peace, security and development in the region and the world as a whole.

38. Ms. HALL (Canada) said that, after a year and a half of extensive and detailed work, the Agency had clearly documented eighteen years of undeclared activities by Iran. That fact, and Iran's continuing lack of full cooperation and transparency, was cause for deep concern and, in her country's view, constituted a clear case of non-compliance by Iran with its NPT safeguards obligations. It was worrying that the Agency was still unable to draw definitive conclusions about the scope and nature of Iran's nuclear programme. Though that country had signed an additional protocol and had declared its willingness to act as if it were in force, the protocol had not yet been ratified and Canada was concerned that Iran could reverse its decision to abide by the protocol, as it had its decision to suspend its enrichment and reprocessing activities. It was essential for the credibility and relevance of the Agency and international nuclear non-proliferation norms that Iran's actions were recognized for what they were and that the action called for in the Agency's Statute was taken.

39. It was extremely alarming that Libya had had an undetected nuclear weapons programme and had even acquired the design for a weapon. Canada welcomed Libya's decision to abandon its nuclear and other weapons programmes, which constituted an important step towards the establishment of an Africa and Middle East free of nuclear weapons and at peace.

40. The DPRK offered a prime example of what could happen if the international community was unable to respond to activities found to be in non-compliance with a State's safeguards obligations. Canada remained extremely concerned about the DPRK's nuclear programme and the serious threat it

posed to global and regional peace and security. It fully supported the ongoing six-party talks but noted that the situation had not evolved significantly since the preceding General Conference.

41. Her country remained concerned that India, Israel and Pakistan continued to refuse to accede to the NPT as non-nuclear-weapon States and it urged those countries to do so unconditionally and without delay and to place their fuel cycles under Agency safeguards. The presence of nuclear weapons in regions in conflict did not contribute to regional peace and security. A substantive dialogue on security issues was essential to achieve progress.

42. Equally, her country had been shocked to learn of the extent of the A.Q. Khan proliferation network. States should work together to put an end to the nuclear black market. Canada would continue to work within relevant multilateral fora to develop appropriate export control measures and capabilities to prevent such proliferation in the future.

43. She welcomed the Director General's decision to convene a forum through which experience in other regions with nuclear-weapon-free zones could be shared with countries in the Middle East and she urged all States in that region and elsewhere that had not already done so to sign, ratify and implement comprehensive safeguards agreements and additional protocols, which was the new safeguards standard.

44. The recent information regarding small-scale experiments on the conversion and enrichment of uranium and the separation of plutonium in the Republic of Korea was cause for concern. The fact that those activities might have been conducted without the knowledge of the Government of the Republic of Korea and the Agency highlighted the limitations of the Agency's investigative powers under comprehensive safeguards agreements and further reinforced the importance of universal adherence to the additional protocol. While Canada welcomed the Republic of Korea's full cooperation with the Agency, it was incumbent on the Agency to apply the Statute and safeguards agreements equally to all.

45. Her country welcomed the efforts of the G-8 to promote universal application of comprehensive safeguards agreements and additional protocols. It was also in favour of the G-8 action plan on non-proliferation adopted at the Sea Island Summit which envisaged the establishment of a special safeguards committee within of the Board of Governors and advocated that countries under investigation for non-technical violations be excluded from the decision-making process in the Board and that special committee.

46. Canada looked forward to seeing the findings of the group of experts convened by the Director General to develop new and innovative approaches to controlling sensitive parts of the nuclear fuel cycle and was prepared to assist the Agency in that work.

47. With regard to safety and security, she welcomed the progress made in implementing the Agency's nuclear security action plan. The Agency should coordinate its efforts relating to nuclear terrorism with other international initiatives such as the Global Threat Reduction Initiative.

48. Her Government supported the Code of Conduct on the Safety and Security of Radioactive Sources and urged others to do likewise. It also welcomed the Board's recent approval of the Guidance on the Import and Export of Radioactive Sources which Canada was committed to implementing by the end of 2005. It was important to ensure that the Code and Guidance were applied in a coherent manner so as not to delay unduly legitimate transfers of radioactive sources. Her country also welcomed the Agency's efforts to address the increasing number of problems caused by refusals to transport sources.

49. An amended CPPNM would significantly strengthen the international physical protection regime. Canada fully endorsed the convening of a diplomatic conference to amend the Convention and urged all Member States to support that initiative.

50. The Canadian Nuclear Waste Management Organization, which had been established in 2002 to investigate and recommend a long-term approach for the management of spent fuel, had recently completed its consultations with the public. The aim was to develop waste management methods that were socially acceptable, reliable, environmentally friendly, economical, safe and secure. She hoped that other Member States could benefit from Canada's experience in that area.

51. Canada had submitted its national report for the third review meeting of the Contracting Parties to the Convention on Nuclear Safety setting out Canada's progress and achievements in the area of nuclear safety over the preceding three years. It hoped that the review meeting would prove useful and that all signatory States would have made progress in achieving the objectives of the Convention.

52. Her country fully appreciated the benefits of the peaceful uses of nuclear technology and had a broad-based nuclear industry ranging from uranium mining and refining to CANDU nuclear power plant design and operation, waste management, research and development and associated infrastructure. It was also a major supplier of medical and industrial radioisotopes and fully supported the use of radioisotopes for medical purposes. The Programme of Action for Cancer Therapy was a timely new initiative to address the impending cancer crisis in developing countries, and she welcomed the Agency's efforts to coordinate that programme with other relevant international organizations. The use of radioactive sources offered a sound and effective treatment for certain cancers and the programme should allow the Agency to help developing countries put the necessary treatment facilities in place.

53. Her Government remained a strong supporter of the technical cooperation programme and welcomed the Agency's ongoing efforts to improve the programme's effectiveness and efficiency through evaluations, audits and process reviews. Those efforts should be expanded from the project to the programming level. Although her country recognized the importance of adequate funding for technical cooperation activities, it felt that contributions to the TCF should remain voluntary and that technical cooperation needs should be assessed independently and not linked to changes in the Regular Budget.

54. Mr. DONOGHUE (Ireland) said that his country supported the multilateral regime of disarmament and non-proliferation treaties and agreements and was committed to upholding and strengthening them. It viewed the NPT as the cornerstone of the global non-proliferation regime and an essential foundation for the pursuit of nuclear disarmament. Disarmament and non-proliferation were mutually reinforcing and both should be vigorously pursued. Ireland attached particular importance to the conclusions contained in the final document of the 2000 NPT Review Conference which set out 13 practical steps for systematic and progressive efforts to implement Article VI of the Treaty, including an unequivocal undertaking by the nuclear-weapon States to accomplish the total elimination of their nuclear arsenals.

55. Weapons of mass destruction were different from other weapons not only because of their capacity to cause death and destruction on a large scale, but also because of the danger that such weapons could fall into the hands of terrorists destabilizing the international situation. Ireland, together with its partners in the European Union, had adopted a strategy against the proliferation of weapons of mass destruction. Support for multilateral institutions charged with verifying and upholding compliance with the relevant treaties was a key element of that strategy. His country would spare no effort in working to achieve the shared objectives of a rules-based international order and strong international institutions.

56. The preceding year had seen continuing challenges to the global non-proliferation regime. He urged the DPRK to return to full compliance with its international non-proliferation obligations under the NPT, including its safeguards agreement with the Agency. Any clandestine nuclear weapons programme should be dismantled in a complete, verifiable and irreversible manner.

57. He welcomed the news that the Agency's understanding of the nature and extent of the Iranian nuclear programme was improving and expressed appreciation for the cooperation that Iran had shown both in facilitating Agency inspections and in continuing to act as though its additional protocol was in force. However, the fact that the Agency was still unable to draw definitive conclusions about the correctness and completeness of Iran's declarations regarding all aspects of its nuclear programme was cause for concern. The European Union had supported the resolution contained in document GOV/2004/79 adopted in the preceding week by the Board of Governors. He urged Iran and all third countries concerned to cooperate fully and proactively with the Agency to enable a complete, comprehensive and definitive picture of all aspects of Iran's nuclear programme to be presented at the Board's meetings in November 2004.

58. The Agency also had verification responsibilities to fulfil with respect to Iraq and its safeguards agreement. Ireland looked forward to those responsibilities being discharged as soon as circumstances permitted.

59. His country had been concerned at the revelations that the Libyan Arab Jamahiriya had also been in breach of its obligations under its safeguards agreement. However, since that country's decision in December 2003 to eliminate all material, equipment and programmes which might be used for the production of weapons of mass destruction, Libya's cooperation with the Agency had been exemplary. He welcomed, in particular, its signature and decision to implement an additional protocol and its ratification of the CTBT.

60. The aforegoing examples demonstrated that the Agency's safeguards system was an essential part of the non-proliferation regime. It played a crucial role in providing the necessary assurances to the international community that nuclear material and facilities were being used exclusively for peaceful purposes. The Agency's compliance mechanisms had to have the funding and capacity to detect any breaches of the NPT and the safeguards agreements which underpinned it.

61. Ireland's long established relationship with the Agency had been of great benefit to it, particularly to the Radiological Protection Institute of Ireland. That Institute had contributed to various technical working groups, training courses and conferences. Ireland continued to provide appropriate training and technical assistance opportunities for other Member States under the auspices of the Agency. It was through such cooperation that the benefits of the Agency could be maximized. He commended the Agency on its research and technical work and the opportunity it afforded national experts to inform themselves of the latest knowledge and thinking among their peers at international level. That up-to-date knowledge facilitated a broader strategic perspective on nuclear safety issues which were an abiding concern of the people of Ireland.

62. His country had a clear policy in relation to nuclear energy. It felt that the perceived benefits of pursuing the nuclear option were outweighed by the potential risks to human health and the environment. Those risks included the safety and security of nuclear installations, transport of nuclear material, unresolved problems regarding radioactive waste management, unnecessary reprocessing of spent nuclear fuel, marine and terrestrial environmental contamination, the ever-present danger of a major accident or incident, and the threat of increased proliferation. For those reasons, Ireland did not consider nuclear energy to be a suitable sustainable energy alternative. That view was not shared by all Member States and some States had actively embraced the nuclear energy option. The problems associated with nuclear energy and global warming constituted environmental challenges to which the

international community had to respond. The notion that nuclear energy provided a no-risk, clean and safe solution to global warming was one which Ireland treated with some scepticism. In some respects, portraying nuclear energy as a solution to global warming amounted to recommending a solution that was as grave as the problem itself.

63. The increasing attention paid by the Agency and Member States to decommissioning was welcome. He expressed appreciation for the International Action Plan on the Decommissioning of Nuclear Facilities which had been approved by the Board of Governors in June 2004. The management of radioactive waste had long been a concern for Ireland. The belated and reluctant attention directed by the nuclear industry to the problems of decommissioning and radioactive waste could not conceal the fact that, for many decades, insufficient provision had been made by that industry in those areas. The extent of the accumulated waste and the cost of dealing with it were only now becoming clear. Member States had to address the safety, security and environmental aspects of that problem. Decommissioning should not be at the expense of the environment and/or human health. The Agency should guide Member States involved in decommissioning in order to ensure that the highest safety standards were met and that all wastes were carefully and securely managed in order to prevent adverse environmental impact.

64. While decisions concerning nuclear energy provision and associated activities were a matter for individual States, a decision to use nuclear energy inevitably affected a State's neighbours. Nuclear and non-nuclear States should work together to ensure that all safety standards were adhered to and subjected to continuous review and improvement. As a non-nuclear coastal State sharing a common marine environment through which radioactive material was transported, Ireland had a particular interest in and concern about the safety of such shipments. While there was considerable divergence of views between Member States regarding the level of risk posed by such shipments, the reality was that a risk did exist. For Ireland, ensuring that the interests of its citizens were fully protected against such risks was a legitimate concern. To protect the interests of non-nuclear coastal States such as his own, a highly-developed system of cooperation and coordination between nuclear shipping States and coastal States would be required. The system should be based on a reciprocal recognition of the legitimate interests, concerns and aspirations of all parties which would complement existing safety standards.

65. Ireland supported and welcomed the adoption of the Action Plan for the Safety of Transport of Radioactive Material by the Board in March 2004, a plan which was challenging but achievable. The plan addressed many issues on which there was common agreement among Member States, but there were, perhaps inevitably, a number of issues on which there was a considerable divergence of views. The success of the Action Plan would depend on the effectiveness with which Member States, assisted by the Agency, addressed those sensitive issues.

66. He expressed support for the Agency's efforts to create an international emergency preparedness and response system, in particular the Action Plan for Strengthening the International Preparedness and Response System for Nuclear and Radiological Emergencies adopted by the Board in June 2004. The plan built on the Convention on Early Notification of a Nuclear Accident and the Convention of Assistance in the Case of a Nuclear Accident or Radiological Emergency and provided an opportunity to strengthen national nuclear and radiological emergency preparedness in association with fellow Member States.

67. He commended the Director General on his foresight in establishing the International Expert Group on Nuclear Liability (INLEX) in 2003. The provision of explanatory texts on the nuclear liability instruments adopted under the Agency's auspices was an important step to facilitate understanding of the complex issues raised by nuclear liability mechanisms. Adequate liability mechanisms had to be in place to prevent harm to human health and the environment, as well as

economic losses caused by nuclear accidents or incidents. Ireland would continue to work with the Agency and other Member States through that group to consider issues related to nuclear liability.

68. Much of the work facilitated by the TCF involved improving safety and human health in recipient countries. Ireland had paid its contribution to the TCF in full, along with its full Regular Budget contribution. It had also pledged financial support for the Nuclear Security Fund.

69. Mr. NIEUWENHUYS (Belgium) expressed appreciation for the Agency's efforts to promote the peaceful uses of nuclear energy and safeguard peace and security in the world and stressed the importance of a multilateral approach in addressing political, economic and social challenges.

70. The risk of proliferation of weapons of mass destruction remained a concern and he welcomed the adoption of Security Council resolution 1540 on that topic which provided for better coordination of efforts at the global level. The Agency had a key role to play in that regard. His country fully supported the European Union Strategy against the Proliferation of Weapons of Mass Destruction and had recently joined the G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction. It was a firm advocate of universal adherence to the NPT and hoped that tangible progress would be made in the areas of non-proliferation and disarmament at the 2005 NPT Review Conference.

71. The Agency's safeguards system was an essential tool to prevent nuclear proliferation. Belgium called upon States party to the NPT that had not yet concluded and implemented a safeguards agreement to do so, in compliance with their NPT obligations. Regrettably, additional protocols were still not in force in a number of States more than seven years after that instrument's approval by the Board.

72. Belgium was concerned that the Agency had still not been able to confirm the scope and exact nature of the nuclear programmes in the DPRK and the Islamic Republic of Iran and called upon those States to increase their cooperation with the Agency with a view to finding a diplomatic solution to the outstanding issues. It urged the DPRK to participate fully in the six-party talks and called upon Iran to step up its efforts to clarify certain aspects of its nuclear activities and undertake the confidence-building measures specified in the Board's latest resolution on the matter. Libya had kept its word and followed a policy of transparency and active cooperation with the Agency and he encouraged it to continue along that path.

73. Every State, in developing the peaceful uses of nuclear energy, had an obligation to protect its people and the environment from ionizing radiation and the risks of radioactive contamination. The Convention on Nuclear Safety, the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management and the Agency's safety standards were helping to promote a global safety culture and to improve or maintain the safety of nuclear facilities.

74. Work was continuing in Belgium to find a sustainable solution for the final disposal of intermediate- and high-level and long-lived radioactive waste. Geological disposal remained the preferred option and research had shown that it did not pose insurmountable problems. However, his country was also participating in work on the separation and transmutation of radioactive waste, techniques that might facilitate disposal. In that connection, its Nuclear Research Centre (CEN/SCK) was developing the Myrrha system, an accelerator-driven system allowing a number of experiments to be performed, including on transmutation.

75. Although nuclear safety and security had points in common, they were different and involved, at times, incompatible requirements. That made it difficult for States to elaborate or maintain a clear and coherent regulatory framework. The Agency should initiate consideration of that topic. It was incumbent upon each State to put in place its own physical protection system for nuclear material and

facilities and the Belgian authorities were currently revising regulations in that area. His country supported the convening of a conference to consider the proposed amendments to the CPPNM. It hoped that the review process would be completed shortly and that the final report of the expert group would be useful.

76. Belgium had joined the consensus in the Board on the approval of the Guidance on the Import and Export of Radioactive Sources supplementary to the Code of Conduct on the Safety and Security of Radioactive Sources and hoped that an appropriate import and export control system would be put in place with a view to harmonizing practices.

77. Although nuclear power was growing more slowly than in the past in the West, it continued to contribute significantly to energy supply. In Belgium, nuclear power plants had produced 56% of the total amount of electricity generated in 2003.

78. At a time when some countries were deciding to abandon the nuclear energy option in the medium term, the maintenance and promotion of nuclear knowledge was more important than ever for both plant safety and security and the development of non-power applications. Belgium welcomed the Agency's activities in that regard and was taking steps to safeguard nuclear knowledge, including through the provision of scholarships for some university courses in the nuclear area, the establishment of the Belgian Nuclear Higher Education Network, and participation in the European Nuclear Education Network. However, an insufficient number of students were choosing to study nuclear science and information campaigns aimed at young people had been launched.

79. In conclusion, the international community had to rise to the challenges in the areas of safety, security and non-proliferation; its failure to do so would have grave consequences for international security. The Agency would have a pivotal role to play in that regard and could be sure of Belgium's full support.

Ms. Hall (Canada) took the chair.

80. Mr. BENDJABALLAH (Algeria) said that the many challenges facing the international community included the risk of nuclear proliferation, constraints affecting the technical cooperation programme, and international terrorism. In that context, the Agency's mission of ensuring the safe and peaceful use of nuclear energy and promoting nuclear technology made a valuable contribution to sustainable development and international peace and security.

81. Despite its shortcomings, the NPT was an essential element in the global security system. All States party to that Treaty had voluntarily undertaken to pursue the double objective of disarmament and non-proliferation. Non-proliferation was thus a transitional stage intended to lead to the complete elimination of nuclear weapons. The right to use nuclear energy for peaceful purposes was enshrined in Article IV of the NPT and should be respected as it only served to strengthen the non-proliferation regime. All States should accede to all international non-proliferation and disarmament instruments.

82. The constant tension in the Middle East in recent years, and the deadlock in the peace process, exacerbated the threat posed by the fact that nuclear safeguards were not being applied in all countries in the region. Israel was the only country in the Middle East which had not acceded to the NPT and continued to develop military nuclear capacity. His country deplored the lack of progress on that issue which had long been on the Agency's agenda. The proposal to establish a nuclear-weapon-free zone in the Middle East had not even got off the ground because of Israel's refusal to accede to the NPT and subject its nuclear installations to Agency safeguards.

83. Algeria had ratified all international instruments related to weapons of mass destruction. In July 2003 it had deposited its instruments of ratification for the CTBT and it had just notified the Agency of its intention to conclude an additional protocol to its safeguards agreement.

84. The Global Threat Reduction Initiative International Partners' Conference which had taken place in Vienna just prior to the General Conference should help meet nuclear safety and security challenges. The use of radioactive sources by terrorists could no longer be ruled out. The Agency's action plan to combat nuclear terrorism was an appropriate response to that threat. The Agency should pursue its activities aimed at improving the security of nuclear installations and material and at strengthening Member States' capacity in that area, in accordance with its mandate under its Statute. Those activities should, however, continue to be financed from voluntary contributions so as not to reduce the resources allocated to technical cooperation.

85. Constant and sustained effort was required in the field of nuclear, radiological and waste safety in order to counter the reluctance and lack of understanding of potential users and the public where nuclear technology was concerned. Algeria had begun to revise its legislation and regulations in order to strengthen its radiation infrastructure, as recommended by the Agency. Measures had been taken to improve the physical protection of nuclear material, coordination and implementation. Algeria subscribed to the provisions of the Agency's Code of Conduct on the Safety and Security of Radioactive Sources.

86. Technical cooperation, one of the three pillars of the Agency's work, helped to strengthen national capacities in line with the needs and priorities of developing countries. Algeria believed that the goals and mechanisms of technical cooperation should be constantly adapted to suit the requirements of recipient States and the challenges which they faced. The technical cooperation programme provided the international community with an opportunity to demonstrate solidarity. Algeria paid both its Regular Budget contributions and its contributions to the TCF consistently and on time, and he called on all Member States to ensure that assured, predictable, and sufficient resources were available for the financing of technical cooperation activities. Furthermore, the Agency should strive to maintain the necessary balance between its main statutory activities.

87. Algeria had signed its CPF in August 2004, which should facilitate the elaboration of future cooperation programmes. It was also involved in and contributed to AFRA. Many regional scientific events had taken place in Algeria and the country had helped with an audit of African nuclear medicine services. It had welcomed many students from other African countries and was now offering a master's degree in medical physics in collaboration with the Agency.

88. Algeria, like many other African countries, had suffered greatly from the ravages of the desert locust. He urged the Agency to consider initiating research under its pest control programme to develop appropriate control techniques.

89. Finally, he called upon all States to ratify the amendment to Article VI of the Statute in order to achieve more equitable representation of developing countries in the Board of Governors.

90. Mr. ADZEI BEKOE (Ghana) expressed condolences to the Governments and peoples of the Russian Federation, Spain, Australia and Indonesia following the terrorist attacks launched in those countries.

91. Events over the preceding year had been very challenging for the Agency and it was gratifying to see from the Annual Report for 2003 that the organization had been able to respond promptly, appropriately and with great dexterity to all those challenges. In handling those complex and highly sensitive situations, the Agency had been guided by the principle that it was only through international cooperation, vigilance and mutual accommodation that progress could be made when dealing with issues relating to international peace and security, nuclear non-proliferation and environmental protection.

92. The safe and peaceful use of nuclear technology offered unique tools in the quest for sustainable development. The Agency's role in transferring nuclear technologies for peaceful applications in its Member States could not be overemphasized, hence the importance of stepping up Agency efforts to help eradicate poverty, fight disease and protect the environment. However, success depended on sustained and cooperative action among all committed Agency partners.

93. Ghana was highly appreciative of the support it had received from the Agency through its technical cooperation programmes. Through both national and regional projects it had continued to strengthen its human resources and institutional capabilities for the application of nuclear technologies to solve problems in the areas of health care, agriculture, industry and the environment.

94. The Ghana Atomic Energy Commission had continued to make more efficient use of the Agency's programmes for nuclear science and technology research and applications. One notable achievement was the application of neutron activation analysis. Ghana's research reactor had been used to characterize major aquifers in the country's eastern region and for geochemical studies of granite bodies in the south. Researchers had carried out work involving radioisotope scanning of distillation columns for the nation's oil refinery and had used non-destructive testing techniques to inspect welds in the chemical and mining industries.

95. Nuclear and biotechnological techniques were being used together with conventional farming practices to support national agricultural projects aimed at increasing food production through the use of tissue culture, and at enhancing biodiversity through the introduction of viable economic varieties produced by mutation breeding.

96. For a decade, Ghana had been utilizing radiation processing for food preservation and sterilization of medical products. Over the years, manpower had been trained to operate the cobalt-60 gamma irradiator. The source had become very weak and his country was seeking venture capital or a partnership with the private sector to replace it. It was hoped that the financial resources needed for the full commercialization of the technology would be found.

97. The Radiation Protection Institute of the Ghana Atomic Energy Commission continued to carry out safety assessments for licensing of the possession and use of radiation sources and radioactive material. There had also been regular compliance inspections to ensure protection of staff, patients and the public.

98. His country would continue to make every effort to ensure that radioactive sources were safe and secure. Measures were being taken to enhance the physical protection of all facilities housing ionizing radiation sources and nuclear material. The Radiation Protection Board and the National Disaster Management Organization had just agreed on a national emergency response plan. The roles and responsibilities of the stakeholder institutions had been identified and preparations made for emergency drills and exercises to be conducted in the near future. Ghana shared the international community's concern about nuclear safety and security and recognized the importance of the actions taken to address that issue. It also strongly supported the Global Threat Reduction Initiative.

99. As in many countries in Africa and other tropical areas, malaria was a major cause for concern. His country was therefore particularly excited about the Agency's efforts and research activities aimed at combating malaria through the application of the SIT.

100. His Government was grateful to the Agency for establishing of a second radiotherapy centre in the country. The Agency had provided all equipment, training and expert services. The two radiotherapy facilities were being used to treat cancer patients from both Ghana and neighbouring countries in the West African subregion.

101. Nuclear security was a precondition for nuclear cooperation and trade, but many countries with insignificant nuclear activities lacked the experience needed to devise and implement a national nuclear security system. Verification challenges were constantly evolving, and the fact that potential proliferators constantly sought access to new technologies meant that the Agency had constantly to update its knowledge and detection capabilities. He appealed to the Agency and Member States with sufficient experience to assist developing countries to close the security gap. Furthermore, multilateral solutions should be found for the management and disposal of spent nuclear fuel and radioactive waste. Due account should be taken of the potential economic benefits, as well as the security and non-proliferation advantages, that could result from international cooperation on the construction and operation of international storage facilities and waste repositories.

102. Countries should cooperate fully to enhance the effectiveness of the NPT and the sustainability of the non-proliferation regime. Ghana attached great importance to the reduction of military expenditure and urged all States to devote the resources freed through such efforts to economic and social development.

103. The Agency had been one of Ghana's reliable development partners ever since the country had joined the Organization in 1960. Ghana's second CPF had been signed earlier in the month and it provided a framework for technical cooperation with the Agency in the medium term and outlined a mutually agreed strategy for matching nuclear technology to national priorities for sustainable development. The focus of cooperation with the Agency would be on human health, water resources development, crop production, livestock development and the development of human resources for the application of nuclear technology and biotechnology.

Mr. Rónaky (Hungary) took the chair.

8. Election of members to the Board of Governors
(GC(48)/4 and 27)

104. The PRESIDENT recalled that in 1989 the General Conference that had approved a procedure whereby, when there was agreement regarding the candidate or candidates from a particular area, no secret ballot would be held; balloting would only take place for those areas where no candidate had been agreed upon. That procedure considerably facilitated the rational use of the General Conference's time. Accordingly, he proposed that Rule 79 of the Rules of Procedure of the General Conference, which provided that elections to the Board should be by secret ballot, be suspended in respect of those areas for which there was agreement.

105. He was happy to report that agreement had been reached in all area groups on their candidates for the vacancies to be filled.

106. Drawing attention to document GC(48)/4, containing a list of the Agency Member States that the Board of Governors had designated to serve on the Board from the end of the Conference's current session until the end of the forty-ninth (2005) regular session, he recalled that, under Rule 83 of the Rules of Procedure, he had to inform the General Conference of the elective places on the Board that had to be filled. To that end, document GC(48)/27 had been prepared; it indicated that the Conference had to elect eleven members of the Board from the seven categories listed.

107. He took it that the General Conference wished to elect Argentina, Ecuador and Venezuela to the three vacant seats for Latin America.

108. Argentina, Ecuador and Venezuela were duly elected.

109. The PRESIDENT took it that the General Conference wished to elect Portugal and Sweden to the two vacant seats for Western Europe.

110. Portugal and Sweden were duly elected.

111. The PRESIDENT took it that the General Conference wished to elect Slovakia to the vacant seat for Eastern Europe.

112. Slovakia was duly elected.

113. The PRESIDENT took it that the General Conference wished to elect Algeria and Ghana to the two vacant seats for Africa.

114. Algeria and Ghana were duly elected.

115. The PRESIDENT took it that the General Conference wished to elect Yemen to the vacant seat for the Middle East and South Asia.

116. Yemen was duly elected.

117. The PRESIDENT took it that the General Conference wished to elect Singapore to the vacant seat for South East Asia and the Pacific.

118. Singapore was duly elected.

119. The PRESIDENT took it that the General Conference wished to elect Sri Lanka to the floating seat for Africa/MESA/SEAP, which it was the turn of a member from MESA to fill.

120. Sri Lanka was duly elected.

– Requests for the restoration of voting rights (GC(48)/INF/9, 10, 11 and 12)

121. The PRESIDENT noted that the General Committee had had before it requests from Afghanistan, Armenia, Iraq and Kazakhstan for the restoration of their voting rights. It had recommended that Afghanistan, Armenia and Kazakhstan be permitted to vote during the current session of the Conference, and until the end of their respective payment periods, on the understanding that they continued to meet the requirements of their payment plans and that the Secretariat would report annually on the status of those payment plans. The General Committee had further recommended that Iraq be permitted to vote during the current session of the Conference because it was of the view that it had failed to pay the amount necessary to avoid the application of Article XIX.A of the Statute owing to conditions beyond its control.

122. He took it that the Conference accepted the recommendations of the General Committee.

123. It was so decided.

22. Examination of delegates' credentials (GC(48)/28)

124. The PRESIDENT said that the General Committee had met earlier in the day to examine the credentials of all delegates, as provided for in Rule 28 of the Rules of Procedure. The report of the Committee was contained in document GC(48)/28. After discussion, the Committee had recommended the adoption by the Conference of the draft resolution contained in paragraph 7 of its report, with the reservations and positions expressed in the report.

125. Mr. SHAALAN (Egypt) said that Egypt's acceptance of the credentials submitted by the delegation of the State of Israel should on no account be understood as covering any of the territories occupied by Israel since 1967, in particular Jerusalem and the Golan Heights. As far as Egypt was concerned, Israel as a State meant the State with the borders of 4 June 1967 and as defined in the peace agreements with Egypt and Jordan.

126. Mr. LAASEL (Morocco) said that Morocco's acceptance of the credentials of the delegation of Israel issued in occupied Jerusalem in no way prejudged the international status of the city, as laid down in relevant United Nations resolutions.

127. Mr. FASSIH (Algeria) associated himself with the statements made by the representatives of Egypt and Morocco.

128. Mr. AL-RAFIE (Jordan) said that, given the importance that his country attached to securing peace for the peoples of the Middle East, and its belief in the need for international action to achieve that aim, his delegation had approved the report of the General Committee and had not signed the statement by Arab delegations expressing their reservations regarding the credentials of the Israeli delegation for the current and previous sessions. Jordan adhered to its consistent position regarding the illegality of the Israeli annexation of occupied Jerusalem, which violated Security Council resolutions. It also affirmed its commitment to General Assembly resolution 35/169 of 1980 which determined that all legislative and administrative actions taken after the occupation of Jerusalem were null and void and called upon all States, specialized agencies and international organizations not to conduct any business that was not in conformity with the provisions of that resolution.

129. The PRESIDENT took it that the General Conference was prepared to adopt the draft resolution contained in paragraph 7 of document GC(48)/28.

130. It was so decided.

7. General debate and Annual Report for 2003 (resumed) (GC(48)/3)

131. Mr. MENDIS (Sri Lanka) said that Agency technical cooperation provided developing Member States with the competitive edge to meet the challenges of globalization, sustainable development and attainment of the Millennium Development Goals by 2015.

132. The technical cooperation programme had enabled Sri Lanka to acquire the capacity to use nuclear technology for important projects and programmes in the fields of health, agriculture and industry, addressing such issues as the safety of agricultural produce, judicious application of agrochemicals and the improvement of radiotherapy facilities in cancer hospitals.

133. The Agency had made every effort to enhance self-reliance and sustainability of national institutions. Sri Lanka's Atomic Energy Authority had generated 55% of its operational expenses in 2003 through its own activities. He expressed appreciation for the Agency's efforts to improve radiation protection and waste management infrastructure facilities in Sri Lanka.

134. In 1976, Sri Lanka had become a party to the RCA and had actively participated in its programmes. As a result, national programmes on the use of nuclear technology had been established, primarily in the health care, agricultural and industrial sectors. Many programmes initiated through the RCA had been developed as national programmes through Agency technical cooperation. His country strongly supported the Agency's approach to fostering regional cooperation. Regional cooperative agreements were effective mechanisms through which transboundary issues relating to safety and security could be addressed.

135. One of the Agency's most important tasks was to prevent proliferation of nuclear weapons by implementing effectively and efficiently the verification regime established through NPT comprehensive safeguards agreements and additional protocols. The end of the Cold War had accentuated the risk of proliferation of nuclear material to non-State actors. In recent years, prevention of such proliferation had been a task of overriding importance for the Board of Governors. His country was confident that the Board would take the necessary steps if there was an imminent danger and that it would not remain passive until the mushroom cloud appeared on the horizon. However, any such steps had to be based on strong and reliable evidence of violations. In case of doubt, it might be necessary to continue the diplomatic process. The Board had to tread carefully before taking such decisions.

136. Sri Lanka endorsed the Agency's concern regarding the lack of progress towards complete and universal elimination of nuclear weapons. Efforts to achieve the total elimination of nuclear weapons were as important as non-proliferation. His country remained concerned at the lack of progress in fulfilling the commitments contained in the final document of the 2000 NPT Review Conference, and at the failure of the Conference on Disarmament to agree on a programme of work.

137. The safety and security of nuclear and radioactive material was of paramount importance to the international community. In the hands of non-State actors, such material could cause havoc and destruction. The danger of terrorists using weapons of mass destruction was not science fiction. His country welcomed the Global Threat Reduction Initiative which required States to undertake voluntary measures to transfer high-enriched uranium from research reactors and to ensure the safety and security of nuclear and radioactive material. The implementation of that initiative called for legal and technical expertise from both developed and developing countries to ensure that those measures were incorporated into national legal systems.

138. There was an urgent need to redouble efforts to strengthen the nuclear non-proliferation regime and prevent weapons of mass destruction from falling into the hands of non-State actors. Multilateral treaties on and multilateral approaches to the elimination and non-proliferation of nuclear weapons were fundamental to ensuring peace and security for future generations.

139. Mr. ARÉVALO YÉPES (Colombia) said that his country had always supported nuclear non-proliferation and disarmament, was firmly committed to the NPT and the Tlatelolco Treaty, and fulfilled its obligations under its safeguards agreement. It supported multilateral initiatives to end the nuclear threat posed by the spread of weapons of mass destruction and their possible use by terrorists,

and by the very existence of nuclear weapons. The NPT established a collective security system based on multilateralism and the recognition of the right of all States to develop nuclear energy for peaceful purposes. For that system to be effective, the cooperation and commitment of all States were required. He called for renewed efforts to strengthen the non-proliferation regime and expressed support for the Agency's safeguards and verification activities.

140. Colombia accorded great importance to the Agency, of which it had been a member since 1960. The three pillars of the Agency's activities struck a balance which was fundamental to the achievement of the organization's statutory objectives. It was important to maintain that balance, particularly at a time when developing countries faced huge challenges which exceeded their technological and financial resources. Nuclear applications in such sensitive areas as food security, agriculture, health, water resource management, environmental protection, radiation safety culture and the sustainability of industrial processes could improve the quality of life in many communities. The Agency's work in those areas and its efforts to preserve nuclear knowledge were laudable and should continue, since the Agency had an important role to play in promoting sustainable development. International cooperation was a vehicle for the transfer of nuclear knowledge and technology for peaceful purposes for the benefit of all humanity.

141. Colombia had benefited from the Agency's technical cooperation programme. Both national and regional projects had been implemented, focusing in particular on human health, mining, radiological protection, agriculture and nuclear medicine. His country had welcomed the Agency's policies promoting systematic analysis of the planning of activities and projects and it was fully committed to the Agency's modern management vision.

142. As a pioneer in its region in the use of nuclear techniques to treat liver cancer, Colombia attached particular importance to radiotherapy and nuclear medicine projects. Its oncological institutions had received Agency support and the National Institute of Oncology had undertaken a cost-sharing exercise with the Agency in December 2003. Hence, it supported the Agency's Programme of Action for Cancer Therapy. It was also strongly in favour of adapting nuclear technologies for humanitarian demining. At regional level, the ARCAL programme had been promoting and strengthening South-South cooperation for 20 years. He expressed appreciation to the Secretariat and donors for their support for that programme.

143. Colombia attached great importance to the transport of radioactive waste. It supported the conclusions of the 2003 International Conference on the Safety of Transport of Radioactive Material, General Conference resolution GC(47)/RES/7, the Action Plan for the Safety of Transport of Radioactive Material approved by the Board in March 2004, and the work of the International Expert Group on Nuclear Liability. He stressed the importance of international cooperation and information exchange between shipping States and coastal States and the fundamental role of the Agency in that regard. The elaboration of a binding legal instrument on that issue would also be desirable.

144. The safety and security of radioactive sources was a priority and his country shared the concerns regarding inadequate control of such sources. There was a need to strengthen mechanisms, national regulations and international cooperation structures aimed at reducing the potential risks associated with radioactive sources, illicit trafficking in radioactive material and their potential use by terrorists. Colombia valued the Agency's work in the nuclear safety and security field, supported all efforts to promote collective security based on international cooperation and multilateralism, welcomed the Global Threat Reduction Initiative and felt that the Agency had a fundamental role to play in that initiative and any other initiative in that field. It was also concerned at the existence of a black market network for radioactive material, equipment and components and the new challenges that posed. The threat of proliferation and terrorism required joint efforts at all levels. A collective security system should not only be based on respect for the rights and legal equality of all States, it should also take

account of the needs of developing countries which, in a globalized world, had to fight for equal access to markets while the resources allocated to international cooperation were constantly being reduced.

– Report of the Scientific Forum

145. The PRESIDENT invited the Rapporteur, Mr. Bigot, to present the report of the Scientific Forum.

146. Mr. Bigot presented the report which is reproduced in the Annex.

147. The PRESIDENT thanked Mr. Bigot for his most interesting report and the Secretariat for its excellent preparation of the Scientific Forum.

The meeting rose at 1.15 p.m.

Report to the 48th regular session of the IAEA General Conference from the 7th Scientific Forum

As a Chairman, it is my privilege and duty to report to you and the Plenary the main points from the presentations and debates of the 7th Scientific Forum organized during the 48th regular session of the IAEA General Conference. This meeting took place on 21-22 September 2004 in Vienna, in an excellent and constructive spirit under the general title of "Nuclear Fuel Cycle Issues and Challenges". It gathered about 180 participants. The three sessions focused on: Advanced Fuel Cycles and Reactor Concepts; Waste and Spent Fuel Management Issues; and Research Reactor Fuel Cycle and Related Issues. All together, 12 detailed presentations were made by leading experts, followed by panellists' comments and discussion with participants.

Before presenting a short report on the points related to the three sessions, let me share with you some general comments:

After years of large R & D efforts in several countries, we presently have a wealth of important scientific results offering answers to a range of issues related to reactors, fuels and nuclear material cycles. New important results are expected to come in the next five/ten years in the considered fields.

We are now moving towards large-scale demonstrations of technologies which could give us an incentive to consider new R & D programs for fully satisfying economical, safety, reliability and non-proliferation expectations.

Due to the present world-wide energy and security context, the next years and decades will see the need for important decisions regarding the building of new power plants, the life extension of the present ones, the decommissioning of reactors as well as the commencement of long term waste disposal projects. All these topics require firm scientific basis, which have to be shared by the public opinion as well as by the political decision makers. There is a great need to communicate on the scientific and technological achievements if we want to gain the agreement of the public.

Our discussions in the Forum revealed that there is no unique way to deal with these issues; diversity has to be fully accepted as far as we agree on the fundamental principles of safety, and environmental and health requirements. We have to set some R & D programs accordingly and work towards international cooperation and discussions to further facilitate the decision process.

Let me now turn to the discussions that took place in the Forum.

In an introductory stimulating presentation, the interest for sub-critical reactors with accelerator driven systems, from the safety point of view, was emphasized. The thorium cycle for minimizing the minor actinide problems associated with the uranium cycle was also advocated. The presentation also highlighted the need to work on highly innovative ideas to generate electricity without any radioactivity by using inertial nuclear fusion involving protons, and boron or lithium.

In Session 1, the importance of optimising in a coherent and global way the nuclear fuel cycle with respect to economics, proliferation resistance, safety and environmental aspects was emphasized. In this connection, the advanced aqueous processing of spent fuel and the emerging dry pyrochemical processes involving molten salt and electro refining were highlighted. The importance of the efficient use of uranium in fast breeder reactors was also stressed.

A survey of evolutionary and innovative reactors and fuel cycles was presented. A comprehensive review of advanced water-cooled, gas cooled, and liquid metal cooled reactors, was

provided highlighting their design and operational features. The importance of international initiatives such as INPRO and GIF was emphasized in this context to optimise the large R & D efforts required.

There was emphasis on multi-recycling of plutonium and minor actinides in fast reactors, to produce additional energy from fissioning all the actinides. It was mentioned that there is a need for progressive changes in the fuel cycles from plutonium recycling in LWRs to multiple plutonium recycling in fast reactors in a phased manner over the next hundred years, for optimal utilization of uranium resources and burning of all the actinides.

The R&D needs for innovative reactor and fuel cycle technologies were discussed highlighting the Indian experience of its three-stage nuclear power programme combining pressurized heavy water reactors, fast reactors and thorium-232/uranium 233 breeders.

The Advanced Fuel Cycle Initiative (AFCI), which is designed to pave the way for an expanded role of nuclear energy in the USA was presented. AFCI is considering the technical and economic viability of four fuel cycle options, including the open cycle option, recycling in thermal reactors, recycling in thermal and fast reactors, and multiple recycling in fast reactors.

The panel discussion centered on the real need for accelerator driven systems (ADS) and FBR for waste minimization, and utilization of research reactors for development of advanced fuels and materials for innovative reactors. The panel explained the technical reasons for ADS introduction and confirmed its potential, but not yet demonstrated, role for transmutation and energy production.

Regarding the question on the introduction of innovative nuclear energy systems in developing countries, the panel pointed out that developing countries have the highest energy demand in the foreseeable future. Nuclear energy could cater to this demand. In particular, innovative reactor systems in the small and medium size category with inherent safety features and enhanced proliferation resistance are seen as a future potential source of energy in these countries.

At the end of the session there was a broadly shared view among the participants that nuclear energy as an emission free energy source is indispensable for sustainable development. The continuous research and development in support of innovative reactors and fuel cycles is crucial. The panel also confirmed the need for research reactors as an important tool for development of innovative reactor systems. In this respect, the closure of the fuel cycle with fast reactors was highlighted.

Session 2 on waste and spent fuel management noted that the growth of nuclear power, while providing many benefits, has also resulted in an increasing global challenge over safe waste and spent fuel management. Over the past fifty years, the world has come to better understand the strong interplay between all elements of the nuclear fuel cycle, global economics and security. The nuclear fuel cycle is no longer managed as a simple sequence of technological, economic and political challenges. Rather it must be managed as a system of strongly related issues. Waste and spent fuel management cannot be relegated to the back-end of the fuel cycle as only a storage or disposal issue. There exists a wealth of success and experience with waste and spent fuel management that can be forged together to mitigate these global challenges in the future.

The participants of this session reviewed the R & D results and the experience to date, in some specific countries like Russian Federation, USA and France for instance, including approaches from direct disposal to the closed cycle. Regarding the latter, reprocessing of irradiated power reactor fuel was noted to be a mature industrial technology. Experience to date has demonstrated that reprocessing can be compatible with security and non-proliferation requirements. There has also been a continuing reduction in the volume of waste arising from reprocessing. This trend will continue with the implementation of improved technology and operating practices. R&D programmes to study the

partitioning and transmutation of environmentally significant radionuclides are being pursued to further assess potential paths to enhancing the effectiveness of waste minimization programmes.

The session also noted that safe and robust interim storage technologies are available to provide system flexibility while addressing longer term waste and spent fuel management options and issues. Regarding direct disposal, session 2 participants described significant progress to date. The majority of technological issues were noted to have been satisfactorily addressed, but ethical and social issues, remain to be addressed appropriately in some countries.

The discussions centered on the issues regarding reprocessing to preclude the need for repositories and the question of relative economics associated with the fuel cycles. The consensus among the participants was that geological disposal remains an ultimate requirement for the open as well as the closed cycle. In the discussion regarding national and multinational repositories, it was noted that it would be desirable to have operating national repositories and to further public acceptance and facilitate progress on multinational geological repositories.

Session 3 dealt with several aspects of the research reactor fuel cycle from the development and qualification of high density low enriched uranium (LEU) fuels as replacements for highly enriched uranium (HEU) fuels, through utilization, interim spent fuel management, reactor refurbishment and ultimate decommissioning.

The extensive development work to increase the uranium loading in LEU fuels and the substantial success achieved so far were reported. Also, work is in progress for development of LEU targets for fission Mo99 production. It is not expected that qualified U-Mo fuels will become available before the year 2010. In this context, the extension of the United States foreign research reactor spent fuel return program would be welcome.

While research reactors will continue to play a crucial role in nuclear science and technology it is important to ensure operational ability in terms of technical and financial resources, meeting the current standards of nuclear and conventional safety, and other aspects related to physical security, public acceptance and environmental responsibility. The technical aspects that need to be addressed include the capability for safe spent fuel management and storage, reactor refurbishment when required and the eventual decontamination and decommissioning of the facility.

For extended interim storage of aluminium-clad spent fuel, a semi-dry storage technique developed and implemented at the Budapest research reactor institute was discussed. Irradiated fuel was encapsulated in sealed tubes filled with dry nitrogen and turned to the water storage pool. This is expected to prevent further corrosion of the irradiated fuel and hence can be used for storing spent fuel over extended periods.

Various aspects of decommissioning of research reactors were presented wherein it was highlighted that early development of a decommissioning strategy is highly beneficial. It was also underlined that a cooling-off period after the final shutdown of the reactor can be highly beneficial, not only because of the decay in radioactivity, but in the progressive availability of newly developed technologies for decommissioning. Problems of dealing with stakeholders, funding issues and waste management associated with the decommissioning of a low power research reactor were also presented and discussed.

It was stated that new research reactors would be required to investigate and develop the advanced fuel and core materials for many of the proposed innovative power reactor concepts. It was stressed that this reactor may have to be powered with HEU or plutonium fuels to investigate the conditions that will prevail in fast reactors.

Let me now conclude. The scientific and industrial communities greatly appreciate the IAEA initiative to organize this Scientific Forum on Nuclear Fuel Cycle Issues and Challenges. It allowed very fruitful discussions and provided opportunities for enhancing further cooperation involving the national programs. The meeting showed that large progresses have been made, but difficult issues still remain open. Therefore, it is important for all interested countries to carry on with ambitious R & D programs in due time in order to prepare for the future.