

IAEA Board of Governors
Record of the 1279th Meeting
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Strengthening the Agency's activities related to nuclear science, technology and applications: Nuclear applications for human health, food and agriculture, water resources and the environment

Board of Governors

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Record of the 1279th Meeting

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¹ GOV/2010/50.

Attendance

(The list below gives the name of the senior member of each delegation who attended the meeting, as well as that of any other member whose statement is summarized in this record.)

| | | |
|-----------------------|---|---|
| Mr YAAKOB | | Chairman (Malaysia) |
| Mr AINI | | Afghanistan |
| Ms CONTRERAS DE ECKER | | Argentina |
| Mr POTTS | | Australia |
| Mr VALLIM GUERREIRO | | Brazil |
| Mr DIALLO | | Burkina Faso |
| Mr MPAY | | Cameroon |
| Mr BARRETT | | Canada |
| Mr HU Xiaodi | } | China |
| Mr HUANG Wei | | |
| Ms GOICOCHEA ESTENOZ | | Cuba |
| Ms CALLESEN | | Denmark |
| Mr FAWZY | | Egypt |
| Mr MONDOLONI | | France |
| Mr LÜDEKING | } | Germany |
| Mr PAPE | | |
| Mr KHULLAR | | India |
| Mr NAKANE | } | Japan |
| Mr OGASAWARA | | |
| Ms KIRAGU | | Kenya |
| Mr SHIM Yoon-Joe | } | Korea, Republic of |
| Mr MOON Byung-Ryong | | |
| Ms MOHAMED KHAIRULLAH | } | Malaysia |
| Ms OSMAN | | |
| Mr ENKHSAIKHAN | | Mongolia |
| Mr HAMER | | Netherlands |
| Ms MACMILLAN | | New Zealand |
| Mr PARVEZ | | Pakistan |
| Mr GARCÍA REVILLA | } | Peru |
| Ms CÁCERES ESCALANTE | | |
| Mr NECULĂESCU | | Romania |
| Mr BERDENNIKOV | | Russian Federation |
| Mr MINTY | | South Africa |
| Mr MARTÍNEZ-CARO | | Spain |
| Mr STEINMANN | | Switzerland |
| Mr KERİMOĞLU | | Turkey |
| Ms MYKOLAICHUK | | Ukraine |
| Mr DRAPER | | United Kingdom of Great Britain and Northern Ireland |
| Mr WOOD | | United States of America |
| Mr UZCÁTEGUI DUQUE | | Venezuela, Bolivarian Republic of |

Attendance (continued)

| | |
|------------|---|
| Mr AMANO | Director General |
| Mr BURKART | Deputy Director General, Department of Nuclear Sciences and Applications |
| Mr SOKOLOV | Deputy Director General, Department of Nuclear Energy |
| Mr ANING | Secretary of the Board |

Representatives of the following Member States also attended the meeting:

Albania, Algeria, Angola, Austria, Belarus, Belgium, Bulgaria, Chile, Costa Rica, Croatia, Cyprus, Czech Republic, Ecuador, Estonia, Finland, Holy See, Hungary, Islamic Republic of Iran, Iraq, Ireland, Israel, Italy, Jordan, Kuwait, Lebanon, Libyan Arab Jamahiriya, Lithuania, Luxembourg, Malta, Mexico, Namibia, Nicaragua, Niger, Nigeria, Norway, Oman, Panama, Philippines, Poland, Portugal, Saudi Arabia, Serbia, Singapore, Slovakia, Slovenia, Sudan, Sweden, Syrian Arab Republic, Thailand, Tunisia, United Arab Emirates, Vietnam, Yemen, Zimbabwe.

Abbreviations used in this record:

| | |
|--------|--|
| ARASIA | Cooperative Agreement for Arab States in Asia 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 |
| CIS | Commonwealth of Independent States |
| CPF | Country Programme Framework |
| DPRK | Democratic People's Republic of Korea |
| EFTA | European Free Trade Association |
| FAO | Food and Agriculture Organization of the United Nations |
| GRULAC | Latin American and Caribbean Group |
| HEU | high-enriched uranium |
| INIR | Integrated Nuclear Infrastructure Review |
| INIS | International Nuclear Information System |
| INPRO | International Project on Innovative Nuclear Reactors and Fuel Cycles |

Abbreviations used in this record (continued):

| | |
|-----------------------|---|
| LEU | low-enriched uranium |
| 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 | Organisation for Economic Cooperation and Development |
| OIOS | Office of Internal Oversight Services |
| PACT | Programme of Action for Cancer Therapy |
| PATTEC | Pan African Tsetse and Trypanosomosis Eradication Campaign |
| PHWR | pressurized heavy water reactor |
| R&D | research and development |
| RCA | Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology (for Asia and the Pacific) |
| SIT | sterile insect technique |
| TCF | Technical Cooperation Fund |
| WHO | World Health Organization |

* Speakers under Rule 50 of the Provisional Rules of Procedure are indicated by an asterisk.

6. Strengthening the Agency's activities related to nuclear science, technology and applications

(GOV/INF/2010/11)

(a) Nuclear power applications, status and prospects of nuclear power (continued) (GOV/2010/43; GOV/INF/2010/12)

1. Mr MOON Byung-Ryong (Republic of Korea) said that, given the potential of nuclear technology to mitigate the effects of climate change, enhance energy security and facilitate achievement of the Millennium Development Goals, it was pleasing that the documents under discussion provided policymakers and experts with a useful, up-to-date overview of current developments in diverse fields related to nuclear energy.
2. The Republic of Korea appreciated the Agency's efforts to support the expansion of the peaceful uses of nuclear energy throughout the world. The upward trend in the number of reactors under construction since the last report on the international status and prospects of nuclear power in 2008 meant that demands on the Agency's expertise had increased significantly and were likely continue to do so for the foreseeable future. The Secretariat should therefore continue monitoring the needs of Member States in order to help meet the increasing demand for nuclear energy worldwide.
3. Nuclear energy had played an important role in his country's economic development and planned investments would further expand that role, strengthening energy security and countering the harmful effects of climate change. The Republic of Korea believed that accumulating and sharing experience would continue to enhance the performance and safety of nuclear activities, which were decisive factors for success in both new and expanding nuclear power programmes. With its accumulated experience and know-how in the field of nuclear power generation, and as a nascent exporter of nuclear reactors, the Republic of Korea was determined to strengthen further cooperation with countries considering nuclear power by providing training and assistance for the development of a sound infrastructure for the peaceful, safe, secure, transparent, and sustainable use of nuclear energy.
4. His country also wished to share its experience and knowledge in human resources development with the growing number of countries considering nuclear power. To help meet the rising demand for a qualified workforce, it planned to expand its human resources development programme for newcomers in the nuclear field as well as for its domestic needs.
5. Recognizing as it did the Agency's efforts in the area of human resources development in countries introducing nuclear power as a crucial factor for safety regulation, operation and management of nuclear facilities, and sustainable nuclear power development, the Republic of Korea intended to participate actively in international cooperative efforts such as the Asian Network for Education in Nuclear Technology and the International Framework for Nuclear Energy Cooperation. Effective human resources development in the nuclear field required continuous and systemic capacity building rather than independent programmes, and the Agency should continue to expand its well organized and interrelated human resources development programmes and activities.
6. Given that existing nuclear reactors were ageing and nuclear power generating capacity was projected to grow by at least 37% by 2030, the safe, economic and effective management of radioactive waste and decommissioning would take on increasing importance. The Agency's work related to the International Decommissioning Network and the International Low-Level Waste

Disposal Network should bring together existing initiatives inside and outside the Agency to enhance sharing of international experience in the application of proven practices.

7. In view of the potential major negative affect an interruption in the production of medical isotopes could have on human health, international cooperation was needed to expand production capacity and ensure the stable provision of medical isotopes. In an effort to address the current situation, the Republic of Korea was planning to use its HANARO research reactor to produce molybdenum for domestic needs and it was at the early stages of investigating the building of a new, dedicated research reactor for producing medical isotopes.

8. Mr BARRETT (Canada) said that the annual omnibus nuclear applications report was one of the best insights into how the Agency fulfilled its statutory objective of accelerating and enlarging the contribution of atomic energy to peace, health and prosperity throughout the world.

9. With regard to the supply of molybdenum-99 he noted that, on 25 August, Atomic Energy of Canada Limited had reported that the National Research Universal reactor had resumed full production of medical isotopes, which had helped restore balance in the global medical isotope supply. Returning the reactor to service diligently and safely, to support patients and health care practitioners worldwide, had been a top priority. Canada had called on the Nuclear Energy Agency of the OECD to establish a high-level group on the security of supply of medical radioisotopes in 2009, which included the Agency and isotope-producing countries. Many of those countries were adding isotope supply capacity and others were planning to do so. It would be useful for the Agency to continue to monitor the medical isotope supply situation and assist Member States as necessary.

10. Canada was one of the original Member States to suggest a biennial report on the international status and prospects of nuclear power and considered it to be particularly valuable for decision-makers and policymakers, whether in government, academia, or non-governmental organizations. It would be very useful for the document to be a stand-alone report.

11. An important topic in the report was radioactive waste and decommissioning. For spent nuclear fuel, the issues were of a policy nature and not technical. Canada, for its part, was making good progress towards implementing a safe and secure plan for the long-term management of nuclear fuel waste. The Nuclear Waste Management Organization, an independent entity established pursuant to the federal Nuclear Fuel Waste Act, was responsible for implementing the plan with Government oversight. In May 2010, the Nuclear Waste Management Organization had initiated a consultative site selection process to find an informed and willing community with a suitable site to host a long-term nuclear fuel waste repository.

12. Mr OGASAWARA (Japan) said his country shared the Secretariat's view that nuclear power contributed to meeting rapidly expanding energy demands and, when employed appropriately, played an important role in achieving sustainable development and responding to environmental issues.

13. The report on the international status and prospects of nuclear power was a particularly useful document and the Agency's activities described therein in support of infrastructure development for nuclear power, and on nuclear knowledge management, were especially important, since an increasing number of Member States were beginning to consider the introduction or expansion of nuclear power.

14. Japan appreciated the Agency's efforts to assist in nuclear power infrastructure development through such means as the INIR mechanism, and in capacity building and sharing of lessons learned through regional networks such as the Asian Network for Education in Nuclear Technology and the Asian Nuclear Safety Network. It had actively supported the organization's activities in those fields.

15. His country had also been cooperating closely with the Agency in INPRO and the Generation IV International Forum based on its own experience and achievements, and it continued to provide support for those activities.

16. Mr BERDENNIKOV (Russian Federation) said that promotion of the peaceful use of nuclear energy, including the development of innovative nuclear technologies and nuclear power infrastructure and the preservation and strengthening of nuclear knowledge, should remain one of the Agency's priority areas of work.

17. His country noted the progress made in INPRO. After ten years' work to encourage the use of innovative technologies for sustainable development of nuclear power, INPRO's capabilities had expanded to include activities and joint collaborative projects in such areas as nuclear energy system assessments, global vision, scenarios and pathways for sustainable nuclear development, innovations in nuclear technology and institutional arrangements, and the INPRO dialogue forum on nuclear energy innovations. Those areas provided a programme of sorts for Agency support to Member States interested in long-term strategic planning for nuclear power development. The INPRO work programme reflected the interests and priorities of the project members, project activities were coordinated with the Agency's regular programme, and the results obtained under INPRO were available to all the Agency's Member States.

18. Russia supported the steps taken by the Agency to encourage the development and introduction of safe, reliable, economically viable and proliferation-resistant small and medium-sized reactors, including for nuclear desalination and hydrogen production. In that connection, he took note of the information on the holding of a technical meeting in Vienna in June 2010 on options to enhance proliferation resistance and security at nuclear power plants with innovative small and medium-sized reactors.

19. The report mentioned the establishment of the International Uranium Enrichment Centre in Russia, with participation by Kazakhstan, Ukraine and Armenia, which was one phase of the initiative proposed in 2006 by the President of the Russian Federation to develop a global nuclear power infrastructure by introducing a system of international centres providing nuclear fuel cycle services, including enrichment, under Agency control on a non-discriminatory basis. Implementation of that initiative helped promote constructive interaction among States sharing a common vision of the need to expand the safe and reliable use of nuclear energy for peaceful purposes.

20. Also deserving of mention in the report was the fact that, in March 2010, Russia and the Agency, acting pursuant to a Board of Governors resolution adopted in November 2009, had signed an agreement on the establishment of a guaranteed reserve of LEU in Angarsk. Practical work was actively under way to bring that agreement into force and ensure its successful implementation.

21. After the agreement entered into force, in the event of disruptions in the supply of LEU for the manufacture of fuel for nuclear power plants for reasons unrelated to technical or commercial considerations, a real assurance mechanism would be in place in the form of a reserve of 120 tonnes of LEU located in the Russian Federation, any decision on the use of which would be taken by the Director General of the Agency. The practical implementation of the agreement should help dispel the doubts of those who continued to question the utility of multilateral approaches to nuclear fuel cycle issues.

22. His country was convinced that a multilateral approach to the use of nuclear energy, supported by a real and effective mechanism for assured nuclear fuel supply, could provide the basis for solving many of the problems facing countries embarking on nuclear power development.

23. Mr KHULLAR (India) said that the Agency's activities related to nuclear science, technology and applications were the centrepiece of its contribution to global development efforts and must remain a focus of its endeavours.
24. Networking arrangements under the aegis of the Agency benefited Member States through exchange of information and consequent improvements and his country thus welcomed the establishment of a new Network of Excellence for Supporting the Use of Instrumentation and Control Technologies for the Safe and Effective Operation of Nuclear Power Plants and took particular note of the publication of the Agency document entitled *Protecting against Common Cause Failures in Digital I&C Systems of Nuclear Power Plants* (NP-T-1.5). The focus on implementing and licensing digital instrumentation and control in safety systems, modernization of instrumentation and control systems and control rooms, monitoring and managing instrumentation and control cable ageing, and new sensing technologies, would constitute an important addition to existing networks and provide benefits to all interested Member States.
25. The international conference on the management of spent fuel from nuclear power reactors held in June 2010 had identified the need for additional work in certain specialized areas and had stressed the importance of greater international cooperation on research and development. The Secretariat should give careful consideration to those recommendations.
26. India attached priority to the Agency's activities on the development of innovative nuclear technologies through INPRO and its technical working groups. After the recent consolidation of INPRO activities in five substantive areas, perceptible progress had been made in all those areas.
27. His country concurred with the observation in the report that the INPRO work programme reflected the interests and priorities of the project's members, which were in line with the Agency's regular programme, and that the results obtained under INPRO were in turn available to all Agency Member States. However, INPRO continued to rely mainly on in-kind and extrabudgetary contributions from its members. It deserved more support from the Agency's Regular Budget.
28. Technical working groups were important in fostering collaboration among Member States on innovative nuclear technologies and related research and development in the areas of advanced water reactors, fast reactors and nuclear fuel cycle options.
29. Noting the Secretariat's actions over the preceding two years in response to the General Conference resolution on nuclear knowledge management, India awaited with interest the publication in 2010 of a new technical report on knowledge management for research and development organizations and status and trends in nuclear education.
30. The report on the international status and prospects of nuclear power was only an update and in several places provided only sketchy information. In the absence of proper referencing to the preceding report, that could create a misleading picture. Such reports should be comprehensive and stand-alone, highlighting, if necessary, important developments during the reporting period.
31. In his own country, in the preceding year construction had begun on four 700 MW(e) PHWRs in Rajasthan and Gujarat. The construction projects for Units 1 and 2 of the Kudankulam nuclear power plant and the prototype fast breeder reactor were at an advanced stage. In addition, negotiations were under way with prospective foreign vendors for the setting up of nuclear power plants at various sites, the site evaluation report for a candidate site for the advanced heavy water reactor having been recently completed. Research and development work was in progress for the building of a compact high-temperature reactor to demonstrate the technology for the comprehensive Indian high-temperature reactor programme. The latter was intended for non-electrical high-temperature

process heat applications, including the production of hydrogen or secondary hydrocarbons as a substitute for primary fossil fuel.

32. Certain actions had also been taken globally to enhance the ability of industry to meet the demand for key components such as pressure vessels and key forgings. To help meet that demand, the Nuclear Power Corporation of India Limited had signed a memorandum of understanding with Larsen & Toubro to set up an integrated facility in India for the manufacture of special exotic steels and large forgings.

33. Mr WOOD (United States of America) said that the power of peaceful nuclear energy must be harnessed on behalf of worldwide efforts to combat climate change and advance opportunity for all peoples. In his 2009 speech in Prague, President Obama had called for the building of a new framework for civil nuclear cooperation so that countries could access peaceful power without increasing the risks of proliferation. In May 2010, Secretary of State Clinton, in her statement to the NPT Review Conference, had stated that the United States unequivocally supported the rights of States that were in compliance with the Treaty to access nuclear technology and energy for peaceful purposes, and that the United States wanted to help expand the ability of all States to utilize peaceful nuclear energy.

34. She had also announced that the United States would make an additional commitment of US \$50 million over the next five years for a new Peaceful Uses Initiative which would help Member States by expanding Agency activities to improve health care and nutrition, manage water resources, increase food security, and develop infrastructure for the safe and secure use of nuclear power. The United States was already working with the Agency on the selection and design of projects to be funded through that new mechanism, and it expected to begin funding projects very soon. It hoped other Member States in a position to do so would match its contribution with an additional \$50 million. While the United States expected that contributing Member States would fund projects according to their own criteria, the initiative placed no restriction on which States should benefit from that significant increase in funding available for peaceful use activities.

35. His country especially welcomed Annex 4 of the report on strengthening the Agency's activities related to nuclear science, technology, and applications, regarding Agency activities to help Member States acquire the infrastructure for the clean, safe, secure, and affordable deployment of nuclear power while avoiding increased risk of proliferation. It was pleased to note the three successful INIR missions carried out in 2009 and the International Conference on Human Resource Development for Introducing and Expanding Nuclear Power Programmes held in Abu Dhabi in March. It was also pleased that the Agency was continuing to develop its publications on infrastructure development and that it planned new publications, seminars, and workshops on that subject. The United States had long supported efforts to help States build the infrastructure for responsible adoption of nuclear power, which was one of the priorities of the Peaceful Uses Initiative.

36. One important development in the Agency's support for nuclear energy that was not mentioned in the report was the Board's approval in 2009 of the Russian Federation's proposal to establish an LEU reserve at Angarsk. The United States had supported that initiative, believing that it would provide a security net for Member States in the unlikely event of a fuel supply disruption, and that it would support the expansion of nuclear energy without the acquisition of expensive and unnecessary fuel cycle facilities. It was not appropriate for a Secretariat report to the General Conference to neglect to mention a significant Board action, and that omission needed to be corrected before the report was sent to the General Conference. The United States looked forward to Board approval of other mechanisms for international fuel assurances in the near future.

37. Ms OSMAN (Malaysia) said that her country, having promulgated a national energy policy which included nuclear power as part of a sustainable energy mix, continued to benefit from the Agency's publications, technical meetings and expert missions that had given rise to numerous information-sharing forums at country level. As Malaysia began to intensify its national human resources development and capacity building programmes, it was actively seeking support for the establishment of national academic curricula in nuclear engineering and other related technical fields. In order to strengthen the country's nuclear power infrastructure, Malaysian universities would also be introducing a curriculum on nuclear law.

38. In anticipation of a healthy national public debate on nuclear power, particularly safety, waste management and energy security, Malaysia was also seeking support through the Agency and collaborative partners to strengthen its public information and public acceptance programmes.

39. Malaysia was also focusing effort on nuclear knowledge management, which was crucial to any human resources development strategy. An invigorated national INIS infrastructure and the establishment of knowledge networks among national and international counterparts were some of the steps being taken towards that end. Her country was grateful for the Agency's nuclear knowledge management assist visit the preceding year to assess national education and training programmes, and it looked forward to continued Agency support in aforementioned areas.

40. Mr STEINMANN (Switzerland) said that the documents under discussion illustrated the specific and, in some cases, unique activities of the Agency in the field of nuclear applications for the benefit of Member States' populations. It was important to remind the world outside of the importance of those activities.

41. The Secretariat should redouble its efforts to make known and explain the impact of the efforts that were being made in the field of human and animal health, food production and water research. It might be useful to produce a publication for the general public on each of the topics covered in the annexes to document GOV/2010/43.

42. The Swiss safety authorities had expressed some concern at the growing interest in introducing small and medium-sized nuclear power plants and had pointed out that the safety approach for small facilities was no less complex than that for large ones. They requested the Agency to provide advice in connection with the monitoring of construction programmes for new reactors.

43. Ms CÁCERES ESCALANTE (Peru) said that her country was aware that the exponential growth in interest in nuclear power worldwide posed a challenge for the Agency. It welcomed the fact that the Agency had increased significantly the number of technical cooperation projects in that area in recent years, in particular for developing countries.

44. In Peru, the proposed national energy policy for 2010–2013 had introduced for the first time a nuclear power plant project as one of its priorities for achieving a diversified energy mix with emphasis on renewable sources, thus opening up a new field of close cooperation with the Agency in the decades to come.

45. Her country supported the coordination efforts of the Nuclear Power Support Group, and the Agency's training activities aimed at addressing the shortage of experts in energy strategies, programme management and leadership through workshops tailored to specific regional and national requirements. It attached particular importance to the training of experts in energy strategies, including application of the Message analysis tool which had already been put to use in Peru.

46. Finally, Peru supported the Agency's efforts to overcome the shortage of medical and industrial isotopes, especially molybdenum-99, to which Peru was able to contribute through cooperation projects with other countries in the region.

47. Ms KIRAGU (Kenya) said that the report contained in document GOV/2010/43 was a testimony to the diverse activities that the Agency undertook pursuant to various General Conference decisions. Nuclear activities, support for infrastructure development for nuclear power, and capacity building and human resources development all complemented one another.

48. The availability of sustainable energy in developing countries was of key importance not only for wealth creation, but also for general improvement of living standards. She noted with appreciation that, in response to the renewed interest in nuclear power in over 60 Member States, the number of technical cooperation projects in that area had tripled. Extrabudgetary contributions for such activities had also increased, and Kenya was grateful to Member States for their contributions, including the United States and Japan, and it called on others to contribute.

49. For the first time, the Government of Kenya had included in the 2010–2011 budget seed money for the development of a nuclear power programme and it appealed to the international community for support.

50. Her country hoped that the Agency would continue to accommodate more requests and encourage and assist Member States like Kenya to realize their development goals.

51. She commended the Secretariat on its continuing capacity building and human resources development activities. Her country concurred with the views expressed at the recent Conference on Human Resource Development for Introducing and Expanding Nuclear Power Programmes held in Abu Dhabi which, inter alia, had pointed to the need to train experts in all areas relevant to the nuclear field. Kenya called on the Agency, in implementing that recommendation, to consider regional balance.

52. Kenya also hoped that the initiative mentioned in paragraph 11 of Annex 5 to document GOV/2010/43 would soon be implemented, which aimed at developing workforce planning tools for countries considering or launching new nuclear programmes.

53. Ms MYCHOLAICHUK (Ukraine) said that her country, which had considerable scientific potential in the nuclear technology field and had long-term nuclear energy development plans, supported the Agency's work on innovative and improved reactors. It actively participated in INPRO and provided the Agency with cost-free expert support.

54. Ukraine supported cooperation in the area of human resources between experienced countries and those embarking on nuclear power programmes, and within the Agency, to bridge the experience gap. It welcomed the Agency's balanced approach to human resources development which emphasized capacity building in all areas of the nuclear field, an approach that should attract a younger workforce.

55. Her country valued highly the IAEA Nuclear Energy Series documents and the Agency's INIR services, which were of great importance for countries launching or expanding nuclear power programmes. It also welcomed the establishment of the Integrated Nuclear Infrastructure Group which complemented the Nuclear Power Support Group.

56. Ukraine welcomed the establishment in April 2010 of the Network of Excellence for Supporting the Use of Instrumentation and Control Technologies for the Safe and Effective Operation of Nuclear Power Plants, which should contribute substantially to the continued peaceful development of nuclear technologies.

57. Her country continued to make efforts to resolve the spent fuel management and decommissioning issues at the three units of the Chernobyl nuclear power plant and actively supported the Agency in establishing and supporting the International Decommissioning Network and the

International Low-Level Waste Disposal Network. Practical examples of decommissioning and assistance in the disposal of low-level waste helped Member States to be better informed and more confident as regards decision-making and practical implementation.

58. Ukraine welcomed the launch of the Network on Environmental Management and Remediation which should provide the support needed to improve knowledge flow from Member States with more experience in the areas of site remediation, decommissioning and disposal to those with less.

59. Finally, her country was particularly interested in initiating cooperation under research reactor projects within the framework of the Eastern European Research Reactor Initiative, which made a valuable contribution to the development of nuclear science in the region.

60. Mr PAPE (Germany), thanking the Secretariat for the comprehensive report contained in document GOV/INF/2010/12, said that his Government had recently decided to extend the lifetime of its fleet of nuclear reactors to — on average — 2035. Nuclear power would thus remain a substantial component of Germany's electricity generating capacity. In addition, nuclear technologies were now once again eligible for export credits and, as a result, German industry would be participating in nuclear power plant construction abroad, including the Angra III plant in Brazil.

61. As the report rightly pointed out, there was an urgent need to address the issue of adequate human resources to face the future challenges of nuclear power. His country was especially active in the field of nuclear knowledge management.

62. In view of the need for broad public consensus and support for long-term development of nuclear power, it was crucial that planning, construction, operation, waste treatment and disposal be as transparent as possible, with involvement of all stakeholders.

63. In his country's view, dealing with the back-end of the fuel cycle was a national and generational responsibility. Therefore, his Government had decided to recommence its investigation of the Gorleben site as a possible final repository for high-level nuclear waste in order to assess its suitability and safety.

64. Germany was now contributing the services of a cost-free expert to INPRO. It was also now a full member of the International Framework for Nuclear Energy Cooperation, formerly called the Global Nuclear Energy Partnership, and was looking forward to participating in the next executive committee meeting of that body to be held in Jordan.

65. Mr HUANG Wei (China) noted with satisfaction the Agency's effective work in the preceding year to promote nuclear power development and cooperation. Faced with the ever increasing demand for support in developing new nuclear power programmes, the Agency had greatly increased its assistance to emerging nuclear power States, providing consultancy, guidance and other services. China particularly appreciated the support the Agency had provided to Member States in relation to uranium exploration, spent fuel and radioactive waste management and decommissioning.

66. After more than 20 years of steady growth, China's nuclear power sector had entered a phase of rapid expansion, with 32 nuclear power generation units with an installed capacity of 34.86 MW having been approved since 2005. The country currently had 12 units in operation with an installed capacity of 10.1 MW. China had also undertaken work on uranium mining, milling and enrichment and fuel assembly production, as well as R&D on a sodium-cooled fast reactor, reprocessing and radioactive waste processing and disposal. The China Advanced Research Reactor and Chinese Experimental Fast Reactor had achieved criticality in May and July 2010 respectively.

67. China's nuclear power development had involved technical cooperation and exchanges with the Agency and other Member States based on the principle of self-development with foreign cooperation.

There had been achievements in the fields of nuclear power project management, nuclear regulatory system development and nuclear human resources training. To respond to the rapid growth of nuclear power in the country, China was further intensifying its cooperation with the Agency. It was also grateful to the United States of America and the European Union for their support for its nuclear power projects.

68. Ms CONTRERAS DE ECKER (Argentina), commenting on the report contained in document GOV/2010/43, said that her country's National Atomic Energy Commission was continuing its R&D work on radioisotope production and was now exporting molybdenum-99 to other countries and developing technologies for the production of other radioisotopes.

69. With regard to nuclear power infrastructure development, human resources training in Argentina covered specialized knowledge in all nuclear fields, both at the country's universities and at specialized institutions associated with the National Atomic Energy Commission. The Balseiro Institute, for example, had been designated a regional reference centre for human resources training in nuclear fields and had trained a significant number of foreign students from the Latin American region and beyond.

70. Finally, her country took a particular interest in the work of INPRO and would continue to participate actively in the project to the fullest extent possible.

71. Mr MINTY (South Africa) welcomed the Agency's continued support for the implementation of tsetse- and trypanosomosis-free zones, especially in the African region, and in particular the progress made by an ongoing regional technical cooperation project in Kwazulu Natal and southern Mozambique. He expressed appreciation for a joint IAEA/FAO training course on the collection of baseline data for the planning and implementation of tsetse area-wide integrated pest management that had been held in Mozambique in June 2010. Such training was important in promoting an integrated approach to the problem in the region.

72. His country also welcomed the renewed commitment by the FAO to continuing its partnership with the Agency by maintaining the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture and it encouraged the Joint Division to strengthen further its activities to assist Member States, particularly developing countries, to address challenges in the areas of food and agriculture.

73. South Africa had committed itself to assisting in alleviating the medical isotope shortages experienced repeatedly in recent years. A subsidiary of the Nuclear Energy Corporation of South Africa had increased its molybdenum-99 production to address the global shortage following the unexpected shutdown of the Canadian medical reactor in May 2009 and, following the conversion of its production process from use of HEU to LEU, that subsidiary had now emerged as the world's first large-scale producer of LEU-based molybdenum-99. It was also in the process of validating production of technetium-99, samples of which were currently undergoing approval and verification in the United States, Japan and China. All its operations were commercial and not subsidized, and the production technology was ready to be deployed globally through joint ventures.

74. Mr MONDOLONI (France) said that interest in civil nuclear energy was, indisputably, growing throughout the world, with 65 Agency Member States having indicated their interest in receiving assistance in developing the necessary infrastructure. Even the global financial crisis had not cooled that interest and the prospects for nuclear power development continued to be revised upwards. In that context, the Agency's work to ensure the safe and responsible development of nuclear energy was essential, as was its central role in the exchange of information in that field. France had long supported the Agency's work to promote nuclear energy. The Agency's reference publication in that area, *Milestones in the Development of a National Infrastructure for Nuclear Power*, (NG-G-3.1), had been

translated into French at his country's initiative, was available on the Agency's website and was distributed during infrastructure development missions in French-speaking Africa.

75. Human resources development and training were a major challenge in the nuclear field as, in order to master all the scientific, technical, legal, industrial and economic aspects of a nuclear power programme, it was vital to make a long-term commitment to the training of generations of technicians and engineers. In that connection, France planned to establish the International Institute for Nuclear Energy which would offer the highest quality of training, would collaborate with the Agency and would form part of an international network of centres of excellence. The number of fellowships available to foreign students would also be expanded.

76. France stood ready to assist countries that wished to benefit from its experience in developing their nuclear infrastructures, and it intended to implement bilateral cooperation in close coordination with the Agency. France and Jordan, which had concluded a cooperation agreement on the peaceful use of nuclear energy, had decided to organize their cooperation relating to the development of Jordan's nuclear power programme by setting up a pilot project to optimize the assistance provided by France and the Agency.

77. France was also participating in the development of fourth-generation nuclear power systems, having committed €1000 million to research in that field, and it planned to develop a prototype fast neutron reactor by 2020. International cooperation was essential for the design of a new generation of reactors that would be more competitive, safe and proliferation-resistant and would produce less long-lived radioactive waste. Therefore, France played an active role in international initiatives such as the Generation IV International Forum, INPRO, the International Framework for Nuclear Energy Cooperation and the Multinational Design Evaluation Programme.

78. Mr TAJOURI (Libyan Arab Jamahiriya)* said that his country valued the Agency's efforts to strengthen its activities related to nuclear science, technology and applications, and the assistance it gave to Member States, particularly in Africa, with controlling crop pests, eradicating malaria-transmitting mosquitoes and tsetse flies, and in other fields such as food and agriculture, water resources, capacity building and infrastructure development for nuclear power programmes. He called on the Agency to adopt a balanced approach to human resources development by building capacity in all nuclear fields rather than focusing on a few selected areas.

79. Mr SOKOLOV (Deputy Director General for Nuclear Energy), responding to the points raised, welcomed the broad support expressed by Member States for the assistance provided by the Agency to countries interested in starting nuclear power programmes, and in other areas such as uranium mining and knowledge management.

80. He concurred with the comment made by the Group of 77 on the importance of ensuring that the recently established Integrated Nuclear Infrastructure Group did not undermine the role of the Department of Technical Cooperation in the selection of technical cooperation projects, and he stressed that the purpose of the new group was to strengthen coordination throughout the Secretariat, since any project to support nuclear power development in a country was very complicated and required expertise from across the Agency's technical departments. The group's establishment had been recommended by OIOS.

81. Some Member States had commented that they would like to see the document on the international status and prospects of nuclear power become a comprehensive stand-alone report, as it was particularly valuable for decision-makers, and he assured those Member States that that request would be given full consideration.

82. He welcomed the information provided by several Member States on their efforts to strengthen the reliability of supply of molybdenum-99 products, which the Agency was supporting by assisting coordination among research reactors in different regions.

83. He noted the support expressed for the Agency's work in human resources development, education and training, in particular the integrated approach to those areas and the INIR mechanism.

84. With regard to the comment on the need to ensure that safety measures were fully applied at small and medium-sized reactors, he indicated that the Agency had a technical working group working on all issues related to such reactors and he was confident that the expertise provided by Member States would ensure that safety issues were correctly addressed.

85. There had been comments that not all Agency activities in relevant fields had been covered in the reports. The reports aimed not to duplicate information already provided in the Nuclear Technology Review and other relevant Agency documents, which did cover the areas mentioned.

(b) Nuclear applications for human health, food and agriculture, water resources and the environment
(GOV/2010/43)

86. Mr BURKART (Deputy Director General for Nuclear Sciences and Applications) said that the report covered activities in three areas of nuclear applications: support to PATTEC; development of the SIT for the control of malaria-transmitting mosquitoes; and strengthening support to Member States in food and agriculture.

87. A recent study by the Livestock Policy Initiative had highlighted the importance of livestock development as a prerequisite for development and food security. In that context, the Agency continued, in close cooperation with PATTEC, to help Member States to combat the tsetse fly in various areas in Africa, as demonstrated by two ongoing regional technical cooperation projects, along with national projects in six countries.

88. The Agency was working with the Government of Ethiopia to address technical and managerial issues with a view to entering the operational phase — including the SIT component — of Ethiopia's Southern Tsetse Eradication Project. In July 2010, he had participated in a high-level meeting in Addis Ababa where the next steps in that important initiative had been formulated.

89. Research facilitated by the Agency included efforts to integrate the geographic information system more effectively into tsetse research and control activities to assist in designing more effective and efficient insect release strategies.

90. Around two million people continued to die every year owing to malaria. Existing efforts to combat malaria had had limited success, which had led to increasing interest from Member States in the use of the SIT for the suppression of mosquitoes, which were increasingly becoming dangerous vectors not only for malaria but also for other infectious diseases such as dengue fever or West Nile virus. The Agency's work over the preceding two years had focused on R&D activities led by its Insect Pest Control Laboratory in Seibersdorf.

91. To address the challenge of rearing mosquitoes on a large scale, and at an affordable cost, prototype holding trays and a rack system for mass rearing had been designed and tested. The Agency had been fortunate to benefit from extrabudgetary support from the United States and France to support those efforts, which had been hampered by budgetary limitations.

92. Important field activities were ongoing in Sudan through an Agency technical cooperation project. Recent activities there had included collection of baseline data and trial releases which,

together with a technical review, had identified the remaining critical issues that needed to be resolved before entering the operational phase.

93. The section of the report on strengthening support to Member States in food and agriculture detailed positive developments in the Agency's partnership with the FAO. A special session of the FAO Conference in November 2009 had renewed the organization's commitment to the IAEA/ FAO partnership, which was the largest of the Agency's nuclear applications programmes. The focus was now on strengthening the partnership, including by working to link more fully the two organizations' respective technical cooperation activities.

94. Early in 2010, the management of the Agency's laboratories in Seibersdorf had been simplified and streamlined, bringing greater programmatic synergies in food and agriculture research activities. The Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture was managing 41 coordinated research projects in cooperation with approximately 600 national research institutions, and was responsible for providing technical support to more than 240 national and regional technical cooperation projects. Food security remained the most important topic for many, in view of the growing world population, water scarcity and signs of climate change. The report gave several examples of the Joint Division's positive contributions to addressing those challenges.

95. Ms FEROUKHI (Algeria)*, speaking on behalf of the Group of 77 and China, took note of the Agency's continued focus on health, agriculture, water and the environment, and called on it to provide assistance for Member States' infrastructure development efforts through capacity building and knowledge transfer in all relevant areas of nuclear technology which would contribute to sustainable development. She noted with appreciation the realignment of the Seibersdorf laboratory management and staff with their respective programmes in order better to respond to the requests of Member States.

96. With regard to Annex 1 of document GOV/2010/43, the Group appreciated the continuing partnership between the Agency and PATTEC and the support provided for implementation of the Plan of Action through two regional and six national technical cooperation projects in Africa. The Group also appreciated assistance provided to 12 Member States for baseline data collection, feasibility assessment studies, capacity building and pre-operational support for use of the SIT, in the form of training, expert services and equipment. It welcomed the signing in November 2009 of a Memorandum of Understanding between the Agency and the African Union Commission in support of PATTEC and looked forward to positive outcomes from the various areas of cooperation.

97. The Agency should continue its work with the International Centre of Research and Development for Livestock in Subhumid Zones (CIRDES) in Burkina Faso with a view to making the latter an Agency collaborating centre on use of the SIT for area-wide integrated management of tsetse fly populations, and it should continue working with the Government of Burkina Faso with a view to establishing a new tsetse mass rearing facility to provide specimens for selected SIT projects in West Africa. The Group also encouraged the Agency to work with Member States in southern Africa on the possibility of using the SIT as part of national tsetse control efforts and on the establishment of a subregional tsetse mass-rearing centre. Given that funds from the African Development Bank for PATTEC would be depleted by 2011, she encouraged Member States to contribute additional funds in order to ensure the sustainability of the programme.

98. With regard to Annex 2 of the report, the Group welcomed the substantial research work carried out over the preceding biennium at the FAO/IAEA Insect Pest Control Laboratory in Seibersdorf. Noting with appreciation that the insect greenhouse in Seibersdorf simulating semi-field conditions had been partially completed, the Group looked forward to the installation of an adequate climate control system that would allow for its year-round use. It welcomed the preparatory activities

undertaken by the Agency for a field pilot project in Sudan and urged the Secretariat to work with countries in the Indian Ocean area that had expressed interest in utilizing the SIT as an additional means of controlling mosquitoes in the region following the encouraging results of the SIT project on Réunion.

99. Turning to Annex 3 of the report, she welcomed the renewed partnership between the Agency and the FAO and expressed strong support for the work of the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture, which had enabled developing countries to obtain better crop yields, produce better food, conserve soil and water resources and address environmental problems, thereby supporting their socio-economic development. The Group took note of the various research activities that were being undertaken and encouraged the Secretariat to seek extrabudgetary funding for infrastructure improvement and modernization of the Seibersdorf laboratories, especially the FAO/IAEA agriculture and biotechnology laboratories. The Secretariat should continue to develop other approaches to strengthen the FAO/IAEA partnership, including through a review of its original terms of reference, with a view to responding better to Member States' needs and demands in food and agriculture.

100. With those comments, the Group took note of the report contained in document GOV/2010/43.

101. Mr LABBÉ VILLA (Chile)*, speaking on behalf of GRULAC, reaffirmed the Group's support for the Agency's activities aimed at developing nuclear applications in the areas of human health, food and agriculture, water resources and the environment, which were priorities for the region. Research and development should continue in order to facilitate technology transfer to developing countries. The work of the FAO/IAEA agriculture and biotechnology laboratories in Seibersdorf was of essential importance.

102. With regard to Annex 3 of the report, the Group welcomed the strengthened links between the FAO and the Agency and the numerous successes of the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture over the preceding biennium which had helped farmers, food producers and governmental bodies improve food supply and security while conserving water and soil resources and biodiversity, thereby contributing to achieving the Millennium Development Goals.

103. GRULAC also welcomed the Joint Division's work in applying the SIT, which had helped expand fruit fly-free areas in Central and South America, allowing the export of fresh fruit and vegetables, and had helped eradicate fruit flies from southern Peru and the cactus moth from two islands in southern Mexico, opening up new export markets and attracting investment in fruit and vegetable production in the region. The Group appreciated the support the Joint Division provided for the establishment and improvement of laboratories dedicated to food security and monitoring of chemical residues in foodstuffs, which helped many countries protect consumer health and promote trade.

104. With those comments, the Group took note of the report contained in document GOV/2010/43.

105. Mr DIALLO (Burkina Faso), speaking on behalf of the African Group, expressed particular appreciation for the continued support to PATTEC and for the development of the SIT for control or eradication of malaria-transmitting mosquitoes, as well as support in the area of food and agriculture. The Group welcomed the high priority accorded to agricultural development in Africa, including efforts to build capacity and develop techniques aimed at creating tsetse-free zones. It also welcomed contributions from Member States and United Nations Specialized agencies, such as the FAO and WHO and encouraged others to provide similar support.

106. The Group appreciated the Agency's efforts, in collaboration with other United Nations organizations, to raise awareness of the tsetse and trypanosomosis problem, to develop maps, manuals

and technical guidelines, and to provide advice on project management and policy and strategy development in support of national and subregional PATTEC projects. It welcomed the signing of a Memorandum of Understanding between the African Union and the Agency to strengthen their partnership and formalize the collaborative framework — within their respective mandates — in support of the overall objectives of the PATTEC Plan of Action. In that connection, the Group noted that the Agency and other organizations had supported two regional projects and continued to provide advisory support to six national projects.

107. With regard to the development of the SIT for the control or eradication of malaria-transmitting mosquitoes, the Group encouraged the FAO/IAEA agriculture and biotechnology laboratories to continue, with donor support, to provide assistance to Member States to enhance their technological and human resource capacities in that field, and hoped that the insect greenhouse would be completed as soon as possible. It commended the initiative to designate the International Centre of Research and Development for Livestock in Subhumid Zones (CIRDES) in Burkina Faso as an Agency collaborating centre and encouraged the Secretariat to involve scientific and research institutes in African Member States increasingly in the SIT research programme. Welcoming the progress made in preparatory activities for a field pilot in Sudan, it requested the Agency to continue providing assistance with capacity building and technical support for the pilot project with a view to expanding it across the whole country and the African region.

108. The Group also took note of the work of the Insect Pest Control Laboratory to develop SIT packages for *Anopheles* mosquitoes, welcomed the research coordination meetings and capacity-building opportunities provided, and encouraged the Agency to continue its efforts in such areas.

109. With regard to Agency activities to strengthen support to Member States in the area of food and agriculture, the Group welcomed the renewed commitment of the FAO to its partnership with the Agency, which was important in effectively addressing the challenges of food safety and security facing many developing countries, particularly in Africa. It welcomed the efforts of the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture to support national and regional technical cooperation projects, including its role in and contribution to eradicating insect pests and viruses such as rinderpest. The Joint Division's work should be further strengthened and enhanced, and the Group urged the Secretariat to continue its efforts, within the scope of its mandate, to that end, in response to Member States' needs in the area of food and agriculture, thus contributing towards attainment of the Millennium Development Goals. It welcomed all measures aimed at enhancing the efficiency of the FAO/IAEA agriculture and biotechnology laboratories, in order to assist Member States in research and development.

110. Recognizing the impact of climate change on food and agriculture, the Group requested the Secretariat to address the issue through the use of nuclear technologies, giving priority to adaptation and mitigation of climate change in the areas of soil and water management, insect pest control, plant breeding, livestock production and food safety.

111. With those comments, the Group took note of the report contained in document GOV/2010/43.

112. Mr WOOD (United States of America), reaffirming his Government's strong support for Agency assistance to Member States in the area of non-power nuclear applications, noted that the Peaceful Uses Initiative would help Member States by expanding Agency activities in support of nuclear applications for health care and nutrition, water management, and food security. Although it was expected that contributing Member States would fund projects according to their own criteria, the Initiative placed no restriction on which States should benefit from the significantly increased funding it made available for peaceful use activities.

113. With regard to the Agency's efforts to promote human health, he noted with satisfaction the substantial progress and achievements made by PACT. The programme's innovative approach to achieving sustainable cancer care capacity in low- and middle-income countries deserved encouragement and support.

114. He commended the Agency's work on combating disease-bearing insects and expressed support for its R&D activities to develop an SIT package for integrated control of malaria-transmitting mosquitoes. The United States had contributed \$120 000 for the development of a mass-rearing module and had provided a Junior Professional Officer to carry out R&D on mosquito genetics and behaviour. He encouraged the Agency to continue to strengthen research along the lines described in Annex 2 of the report and to continue its fund-raising efforts.

115. The United States welcomed the new joint commitment of the Agency and the International Centre of Research and Development for Livestock in Subhumid Zones (CIRDES) to work together to strengthen regional capacity-building efforts and enable the Centre to become an Agency collaborating centre. His country had contributed \$190 000 to purchase a new X-ray irradiator for SIT operations in West Africa.

116. He commended the Agency's work in partnership with PATTEC, in particular the signing of a Memorandum of Understanding, but encouraged the Agency to harmonize further the working relationship between PATTEC and the programme against African trypanosomosis, as recommended by an external review group organized by the FAO.

117. His country welcomed the many positive achievements in the area of food and agriculture, drawing particular attention to the contribution of the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture to the FAO Global Rinderpest Eradication Programme, which would result in a declaration of freedom from rinderpest by the end of 2010. It encouraged the Agency to demonstrate to Member States how much they benefited from the programme activities and achievements of the Joint Division and looked forward to receiving further information in that regard.

118. Support in the areas of food, health and water security — the key goals of the Peaceful Uses Initiative — would contribute to solving many primary agricultural problems and result in more, better and safer food, while conserving soil, water resources and biodiversity and improving health care, thereby contributing broadly to achieving the Millennium Development Goals. Non-power nuclear and radiological technologies held great promise for improving the daily lives of people around the world. The United States welcomed the growing potential for the Agency and Member States to collaborate in securing a better future for all by employing competencies unique to the Agency.

119. Mr NAKANE (Japan) expressed appreciation for the Agency's efforts in the field of nuclear applications for human health, food and agriculture, water resources and the environment. Japan highly valued the important role of the Agency and supported its work on power and non-power nuclear applications to tackle various global issues including energy, greenhouse gases, climate change, poverty, health and the supply of clean water. His country had contributed its experience and expertise in the area of the SIT. It welcomed the fact that the Japanese-funded United Nations Trust Fund for Human Security was being utilized effectively to support PATTEC activities. Japan continued to support and cooperate with the Agency in its work, for instance by sending top experts to participate in the scientific forum on cancer in developing countries to be held during the forthcoming session of the General Conference.

120. Mr BERDENNIKOV (Russian Federation) said that establishing conditions for the broad use of nuclear energy for peaceful non-power applications, particularly in medicine, agriculture, environmental protection and water resources management, was one of the Agency's most important statutory functions. Russia was interested in broadening its cooperation with the Agency in those

fields, including through participation of Russian experts in technical meetings and coordinated research projects and through the organization of training courses at higher education institutions in Russia, with Agency support, for people from developing countries.

121. He drew attention to the increase in Agency projects on non-power applications in which Russia participated. His country's proposal to include in the technical cooperation programme for 2012–2013 a regional project to establish a Eurasian educational research centre for medical physicists and radiation oncologists at the Blokhin Cancer Research Centre in Moscow was aimed at resolving current problems with regard to training of specialists from CIS countries in radiotherapy and diagnosis, medical dosimetry and radiation medicine.

122. The Russian Federation appreciated the work of the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture. Nuclear and isotopic techniques played an important role in guaranteeing food supplies and food safety. His country noted with satisfaction that the new structure adopted by the FAO in 2009 included the Joint Division, which should allow continued collaboration with the Agency in the use of nuclear techniques in agriculture.

123. Mr HUANG Wei (China) noted with satisfaction that, over the preceding year, the Agency had made effective efforts to promote nuclear technology applications in Member States, in particular by providing targeted assistance and support in a range of areas including cancer control, the SIT, water resources, the environment and food security. He expressed appreciation for the positive socio-economic results achieved in developing countries. He also noted with satisfaction that the Secretariat had continued its fruitful cooperation with other United Nations bodies, in particular the FAO, and expressed the hope that such efforts would be further strengthened with a view to meeting the global challenges of environmental protection, food security and sustainable development.

124. Mr ENKHSAIKHAN (Mongolia) noted with appreciation that the Agency was increasing its support to Member States for the use of nuclear techniques in food and agriculture, thereby making a considerable contribution to achieving global development objectives, in particular the Millennium Development Goals. Joint activities with the FAO on the application of nuclear techniques in crop and livestock production, animal health, soil degradation and food quality were of great significance to an agricultural country like Mongolia, and agriculture was one of the priorities in his country's new CPF. The Agency would be providing assistance in the areas of crop improvement and crop management practices, breeding and genetics in livestock, and assessing soil degradation and erosion.

125. The Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture delivered services in such areas as mutation breeding of drought-tolerant crops, animal and plant pest and disease control, food safety, and sustainable use of natural resources. It was running 41 coordinated research projects in approximately 600 research institutions and experimental stations in Member States. By promoting exchange of information and cooperation in research in areas of common or identical interest among partners, such projects contributed to finding solutions and achieving practical results.

126. More than 100 Member States were using mutation induction techniques to improve food and industrial crops, and the number of officially released mutant varieties stood at over 3000. The economic dividends of new varieties of crops could be enormous, as demonstrated by the three improved rice mutant varieties grown in Vietnam. Mongolia had yet to master the technology.

127. The report underlined the fact that, by the end of 2010, the world would be officially declared free of rinderpest. He commended the role played by the Joint Division in the FAO Global Rinderpest Eradication Programme. The World Organisation for Animal Health had already declared Mongolia rinderpest-free. Support from the FAO Global Rinderpest Eradication Programme and an Agency technical cooperation project had been instrumental in that achievement.

128. More than 60 countries, including his own, had expressed interest in introducing nuclear power, and Mongolia was working to begin mining its uranium reserves. The number of technical cooperation projects in that area had tripled. It was important for the Agency to continue to support Member States that had requested assistance in that regard. His country welcomed the timely launch in 2009 of the INIR service to examine national infrastructure needs. Like other newcomers in the nuclear power field, Mongolia was closely following developments in innovative nuclear technology. The availability of sufficient skilled personnel was vital to national nuclear power programmes. He commended the Agency's activities to promote human resources development and encouraged it to continue those efforts.

129. Mr POTTS (Australia) noted with appreciation the Agency's work on eradicating disease-carrying insects and on food and agriculture, in particular through the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture. The Agency's activities in the area of nuclear science, technology and applications helped provide the sound basis needed to support effective delivery of the Agency's technical cooperation programme, and for the organization to fulfil its obligations under the NPT.

130. Turning to nuclear power applications, he noted that the Agency had again revised its projections for global growth in nuclear power upwards. As Member States' interest in nuclear power continued to grow, the Agency's role in helping Member States new to nuclear power to address the infrastructure requirements for its introduction continued to increase in importance, as did the Agency's efforts to help Member States ensure that safeguards, safety and security were integrated into new nuclear power programmes as early as possible.

131. In view of the projected growth in nuclear power globally, he welcomed the Agency's continued cooperation with the Nuclear Energy Agency of the OECD to produce the 2009 edition of the Red Book on uranium resources, production and demand, which reported further increases in identified economically recoverable conventional resources. His country continued to attach the utmost importance to ensuring that any expansion in uranium mining was undertaken in an environmentally and socially responsible manner and it welcomed the Agency's relaunch of the Uranium Production Site Appraisal Team programme, as well as its efforts to expand the Uranium Production Network for Education and Training.

132. Australia's commitment to ensuring high standards of safety and use of best technology in all aspects of the fuel cycle was reflected in its coordination of the Vienna-based Friends of Responsible Uranium Mining initiative, and its co-hosting of a round-table meeting during the forthcoming session of the General Conference on uranium production which he invited representatives of all interested Member States to attend.

133. Welcoming the Agency's efforts to strengthen nuclear knowledge management, in particular through expansion of knowledge-sharing networks such as the International Decommissioning Network, the International Low-Level Waste Disposal Network and the Network on Environmental Management and Remediation, he encouraged Member States to become involved in such networks.

134. The report drew attention to the continuing shortage of molybdenum-99, the precursor to technetium-99m which was used in 80% of diagnostic nuclear medicine procedures worldwide. Australia's LEU-based molybdenum-99 production capacity continued to increase, and the Australian Nuclear Science and Technology Organization was now supplying some LEU-based molybdenum-99 to the export market, thereby helping to meet the global shortfall. His country looked forward to the results of the Agency's current survey on non-HEU based molybdenum-99 and technetium-99m production.

135. Ms MOHAMED KHAIRULLAH (Malaysia) thanked the Secretariat for the report contained in document GOV/2010/43 and for highlighting the achievements and the various activities undertaken in response to the expectation and requests of Member States.

136. Malaysia remained an active partner of the Agency in the peaceful uses of nuclear energy, participating in numerous technical cooperation activities through national and regional programmes and coordinated research projects. Malaysian experts went on missions both in and outside the region, where they provided technical expertise and contributed actively to multilateral discussions and consultations, and their number was expected to increase in the future. As well as its various in-kind contributions to Agency activities, Malaysia had always fulfilled its financial obligations by contributing in full and on time to the Regular Budget and the TCF, and paying its NPCs. It also made modest, but consistent, extrabudgetary contributions to the RCA programme.

137. Her country continued to strengthen its capacities not only in the areas listed in the report but also in relevant industrial applications of nuclear technology, including the development of new materials and ensuring a clean and safe environment. It needed Agency support to enhance further its efforts and it looked forward to active discussions with the Secretariat on the project concepts it intended to include in its national technical cooperation programme for the 2012–2013 cycle. It hoped that the Agency would help promote collaboration between itself and other Member States through triangular cooperation approaches in regional and interregional technical cooperation.

138. Mr GARCÍA REVILLA (Peru) said that his country was impressed by the growing importance of nuclear applications for human development and achievement of the Millennium Development Goals.

139. Techniques to diversify and adapt crops intended both for domestic consumption and export improved food security in a sustainable manner, thus contributing directly to the first goal of reducing poverty. Peru welcomed the progress made in PATTEC and supported the work of the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture related to crop and product improvement, soil conservation and use of water resources. Peru was making efforts to secure its domestic food supply and sustain the enormous boom in agricultural exports. With Agency assistance, it had managed to produce high-yield crop varieties and it hoped to extend that experience to Andean species. The country's success in eradicating fruit flies put it in a position to offer technical assistance to other countries in the region. One of the country's priorities was radiation sterilization of a greater number of exported products.

140. His country fully supported the priority the Director General had assigned to PACT and to the development of a joint cancer prevention programme with the WHO. In recent years, Peru had improved the capacities and equipment of its public health network, but it required ongoing assistance from the Agency to improve standards and training at a growing number of private health centres, particularly in the provinces. Another priority was the prompt conclusion of the project to install a cyclotron in Peru with the Agency's support.

141. His country was pleased to have concluded with the Agency its CPF for 2012–2016. It was also looking forward to hosting a course in November 2010 for experts from Latin America and the Caribbean on methodologies for the design of technical cooperation projects.

142. As the 25th anniversary of ARCAL approached, Peru underlined the significant contribution that ARCAL had made to training, research and development in the field of nuclear science and technology applications in the region.

143. Mr HAMER (Netherlands) recalled that, in 2008, gas leakages had been observed in the primary cooling system of the High Flux Reactor in Petten, which met 30% of worldwide demand for

radioisotopes. Given the urgent demand for radiopharmaceuticals, the operator had been granted a special temporary licence by the Dutch Government, allowing it to continue operating the reactor for one year under strict conditions after implementing additional leak monitoring and safety measures. The licence had been approved by an Agency safety mission and a detailed plan for the reactor's final repair had been approved in close consultation with a team of Agency experts in January 2010. Repair work had been carried out from February to July 2010. Affected pipe parts had been replaced and measures taken to prevent similar galvanic corrosion problems in the future. On 9 September 2010, the reactor had resumed operation, producing radioisotopes used to treat 24 000 patients worldwide every day. The Netherlands was grateful for the Agency's excellent cooperation in that connection.

144. Mr PAPE (Germany) reiterated his country's commitment to INPRO and the International Framework for Nuclear Energy Cooperation and highlighted the importance of human resources development and nuclear knowledge management. Medical applications of isotopes, especially for cancer therapy, were of the utmost importance. He thanked the Agency for its efforts to tackle the shortage of molybdenum-99 supplies and said that his country planned to modify its research reactor in Munich to assist in that regard.

145. Ms MACMILLAN (New Zealand) noted the progress reports contained in document GOV/2010/43 on PATTEC, development of the SIT, support to Member States in food and agriculture, and Agency activities in the area of nuclear energy. Many benefits could be gained from the peaceful uses of nuclear energy, particularly in activities relating to food quality and safety, crop improvement, sustainable land and water management, pest control, water resources and access to fresh water, and environmental management and health, including vaccine research and cancer therapy. Nuclear non-proliferation, safety, security and waste management should be an integral part of the development of peaceful uses of nuclear energy. Nuclear technology needed to remain accessible to all but, at the same time, it was essential to ensure that it was managed safely and securely and did not contribute to the proliferation of nuclear weapons.

146. She noted the Agency's activities related to the development of innovative nuclear technology, in particular the study on legal and institutional issues of transportable nuclear power plants. New Zealand was very interested in the issue of nuclear transport and it looked forward to examining the study and its full report once they were published later that year.

147. Mr MONDOLINI (France) said that, based on an agreement signed in September 2008, the Agency and the French Institute of Research for Development, had decided to strengthen their cooperation by implementing a pilot project on the island of Réunion to study application of the SIT to eradicate malaria-, dengue- and chikungunya-transmitting mosquitoes. That pilot project, which was co-funded by France and involved several French research organizations, had already attracted a lot of interest from other States in the region. France welcomed that success and encouraged further coordination between the Agency and other national and international stakeholders. By strengthening cooperation and improving synergies among stakeholders, the countries in greatest need could be given effective assistance with their development.

148. France was working actively with the Agency to address the shortage of radioisotopes for medical purposes and was currently completing construction of a research reactor in Cadarache that would be able to meet a large part of European demand for radioisotopes in the future. The project was open to international cooperation.

149. Mr BURKART (Deputy Director General for Nuclear Sciences and Applications) thanked speakers for their expressions of support for the Agency's continuing efforts to use nuclear techniques to address issues related to the work of the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture. Many had referred to the link between the Agency's work and efforts to achieve the

Millennium Development Goals and those comments would be fully taken into account in the planning of subsequent work.

150. With regard to cooperation with PATTEC, he had noted the interest in expanding the effective and efficient use of the SIT, particularly in view of current challenges related to climate change and such issues as water scarcity. However, success was not only based on the relevance of the technology used, but also on the operational environment in which it was applied. Scientists continued to agree that the SIT was an important tool for insect pest control. GRULAC had referred to recent successes in eradicating fruit flies in Latin America and the cactus moth in Mexico, leading to significant socio-economic benefits through the export of cash crops. In the Agency's work on tsetse flies, mosquitoes and other pests, it had identified preconditions for entering the operational stage. The African Group and others had expressed support for efforts to use collaborating centres — such as the International Centre of Research and Development for Livestock in Subhumid Zones (CIRDES) in Burkina Faso for work on tsetse flies — and opportunities would continue to be sought to utilize the capacities of Member State institutions, which were much larger than those of the Agency's facilities in Vienna and Seibersdorf.

151. Many had spoken about the importance of the Agency's work to address food security issues. While the Agency was very pleased that its partnership with the FAO was now secure, there was potential to strengthen that partnership further. He noted the recommendation to review the FAO/IAEA agreement and said that the issue would be discussed at the next Joint Division Steering Group meeting.

152. The Group of 77 and other speakers had highlighted the excellent work of the Joint Division's laboratories in Seibersdorf. He took note of the requests to look at further means of strengthening those laboratories and aligning them with Member States' needs.

153. He thanked those Member States that were providing additional financial and/or institutional support for common efforts to promote the sustainable use of nuclear science and applications for human development. His Department looked forward to future initiatives, like the Peaceful Use Initiative, and other means of support and cooperation from Member States to strengthen its efforts.

154. The CHAIRMAN, summing up on item 6(a), said that several members had underlined the importance they attached to the development of nuclear energy and the role of its peaceful applications in achieving socio-economic development, and also to the importance of increased transfer of technology to developing countries. Wide-ranging views had been expressed on Annexes 4, 5, 6 and 7 of document GOV/2010/43, covering the issues of: nuclear energy activities, including current global supplies of molybdenum-99; supporting infrastructure development for nuclear power; Agency activities in the development of innovative nuclear technology; and nuclear knowledge management.

155. Several suggestions had been made for amendments or additions to the report. Some members had stated that the report should mention the proposal of the Russian Federation — approved by the Board the preceding year — to establish an LEU reserve at Angarsk.

156. Several members had commended the Secretariat for preparing an updated report on the international status and prospects of nuclear power, contained in document GOV/INF/2010/12, which was particularly useful for policymakers. Some members had expressed the view that the report would be most useful if it was comprehensive and stand-alone.

157. Several members had stressed that the Agency should continue to assist interested Member States successfully to introduce or expand nuclear power programmes.

158. Several members had noted the increasing public confidence in nuclear power, due partly to the successful generation of nuclear energy over the preceding 20 years and growing concerns over

climate change. They had urged the Secretariat to work with Member States in clarifying public concerns about nuclear power.

159. Several members had urged the Secretariat to continue supporting Member States in developing strategies and implementing projects on spent fuel and waste management systems.

160. Summing up on item 6(b), he said that several members had commended the Agency for its efforts in implementing nuclear applications in different domains contributing to achieving sustainable development, and had encouraged the Secretariat to intensify its efforts to provide assistance in developing the required infrastructure through capacity building and transfer of know-how.

161. Wide ranging views had been expressed on annexes 1, 2 and 3 of document GOV/2010/43 covering the issues of: support for the PATTEC Plan of Action; development of the SIT for the eradication of malaria-transmitting mosquitoes; and strengthening support to Member States in food and agriculture.

162. Several members had urged the Secretariat to continue developing approaches to strengthen the FAO/IAEA partnership so that it could better respond to Member States' needs and demands, and several had expressed the wish that the work of the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture be strengthened and enhanced in that regard.

163. Several members had noted with appreciation the realignment of the Seibersdorf laboratory management and staff with their respective programmes, in order better to respond to the requests of Member States.

164. Some members had commended the Agency's work in implementing PACT and had looked forward to its further development and implementation.

165. The Board had noted the responses by the Secretariat on some of the issues raised during the discussion.

166. He assumed that the Board wished to take note of Annexes 1–7 of the report contained in document GOV/2010/43 and authorize the Director General to submit it to the General Conference at its 54th regular session.

167. It was so decided.

168. The Board had also noted document GOV/INF/2010/11, containing a communication from the Sultanate of Oman concerning ARASIA.

169. He asked whether his summing-up was acceptable.

170. The Chairman's summing-up was accepted.

7. Nuclear Verification

(a) Staff of the Department of Safeguards to be used as Agency inspectors (GOV/2010/44; Note to Governors dated 13 August 2010)

171. The CHAIRMAN said that document GOV/2010/44 contained proposals by the Secretariat regarding the staff of the Department of Safeguards to be used as Agency inspectors. The curricula vitae of the staff members in question had been circulated to all Board members by the Secretariat

under cover of a letter dated 19 August 2010. An updated summary, by nationality, of the staff of the Department of Safeguards to be used as inspectors had also been circulated under cover of a Note to Governors dated 13 August 2010.

172. There being no speakers, he took it that the Board wished to take the action recommended in document GOV/2010/44 and authorize the Director General to use the professional staff members referred to in paragraphs 1 and 2 of that document as Agency inspectors.

173. It was so decided.

(b) Application of safeguards in the Democratic People's Republic of Korea
(GOV/2010/45 and Corr.1)

174. The CHAIRMAN noted that the Director General's report contained in document GOV/2010/45 reported on developments since the 53rd regular session of the General Conference regarding the application of safeguards in the DPRK and the implementation of the ad hoc monitoring and verification arrangement agreed upon by the Agency and the DPRK.

175. Mr HU Xiaodi (China) said his country was concerned that the situation in the DPRK remained complicated and sensitive and that the six-party talks had stalled. A serious lack of mutual trust among the parties concerned was the root cause of the constant tensions in north-east Asia, and only by engaging in dialogue would it be possible to rebuild that trust and find a balanced solution to the various concerns. The parties involved needed to consider how to turn the situation around and put the consultations back on track at the earliest possible date. In the long term, the tensions and disputes in the region could be resolved through progress in the six-party talks, a shift from armistice to peace on the Korean Peninsula, and ultimately the creation of a north-east Asian peace and security mechanism. However the situation progressed, the various parties should keep in mind the bigger picture, exercise restraint, resume direct dialogue, strive together for an early resumption of the six-party talks, continue to advance the Korean Peninsula denuclearization process and work together to achieve the objectives set forth in the September 2005 Joint Statement. China stood ready to work with the parties concerned and the international community to achieve those objectives.

176. Ms DE CARTIER (Belgium)*, speaking on behalf of the European Union, the candidate countries Turkey, Croatia, the former Yugoslav Republic of Macedonia and Iceland, the countries of the Stabilization and Association Process and potential candidates Albania, Bosnia and Herzegovina, Montenegro and Serbia, the EFTA countries Liechtenstein and Norway, members of the European Economic Area, as well as Ukraine, the Republic of Moldova, Armenia, Azerbaijan and Georgia, expressed deep regret at the lack of progress since the preceding series of Board meetings. The European Union was gravely concerned over the decision by the Government of the DPRK to cease all cooperation with the Agency by requesting, in April 2009, that it remove all containment and surveillance equipment from the DPRK's nuclear facilities and that all inspectors leave the country. The European Union strongly supported the application of safeguards and called on the DPRK to resume dialogue and allow for an early return of Agency inspectors. It was deeply regrettable that the Agency had not been able to implement safeguards in the DPRK since December 2002 and could therefore not draw any safeguards conclusion for that country. The DPRK was still bound by its international obligations under United Nations Security Council resolutions 1695 (2006), 1718 (2006) and 1874 (2009), and by its comprehensive safeguards agreement under the NPT, and it should comply with them fully, unconditionally and without delay.

177. The European Union was also deeply concerned by other actions taken by the DPRK, including the testing of nuclear explosive devices and launching of missiles. It strongly condemned such actions and urged the DPRK to abandon and dismantle any nuclear weapons and nuclear programmes in a

prompt, complete, transparent, verifiable and irreversible manner. The DPRK should also refrain from taking any further actions that would increase tensions in the region.

178. The European Union attached great importance to finding a peaceful solution to the DPRK nuclear issue and to the denuclearization of the Korean Peninsula. It fully supported the six-party talks aimed at the complete, irreversible and verifiable disablement and dismantlement of all nuclear weapons and existing nuclear programmes in the DPRK. It strongly urged the DPRK to return immediately and without preconditions to the negotiating table, to honour the commitments of the September 2005 Joint Statement and to take the necessary steps to achieve peace and stability in a future denuclearized Korean Peninsula.

179. In order to prevent any further proliferation to or from the DPRK, the European Union called upon all countries to implement promptly all provisions of Security Council resolution 1874 and to exercise particular vigilance with respect to exports and financial transfers in order to prevent any contribution to proliferation-sensitive activities. The international community had to cooperate closely to resolve the nuclear crisis on the Korean Peninsula and ensure the DPRK's compliance with its obligations and commitments.

180. The European Union requested the Director General to keep the Board informed on the issue and to maintain the item on the agenda of its meetings.

181. Mr SHIM Yoon-Joe (Republic of Korea) said that the Director General's report had once again made clear that the Agency had not been able to implement safeguards in the DPRK since December 2002 and was therefore not in a position to draw any safeguards conclusion for that country. That was a stark reminder that the Agency's ability to verify and assess effectively the nature of that country's nuclear programme had been impaired for an extended period. In fact, the Agency had never been able to verify the correctness and completeness of the DPRK's initial declaration submitted in May 1992 in accordance with its safeguards agreement.

182. Progress on the implementation of safeguards could not be expected until the DPRK abandoned its ambition for nuclear weapons and implemented its obligations under the September 2005 Joint Statement, the NPT and relevant United Nations Security Council resolutions. It was cause for grave concern to keep hearing from the Director General that he had nothing to report to the Board as there were no inspectors in the DPRK. The Republic of Korea feared that, owing to a lack of progress over many years, the international community might lose the sense of urgency on the DPRK nuclear issue, inadvertently accepting the status quo. However, it should not be forgotten that the DPRK had a nuclear capability which not only threatened the peace and security of the Korean Peninsula but also jeopardized the international non-proliferation regime.

183. The Agency's response to the DPRK issue would have a significant impact on other safeguards issues, the global non-proliferation regime, and the achievement of the goals of the NPT. An adequate response had to be found. The absence of Agency inspectors in Yongbyon did not mean there was nothing for the Agency to do.

184. Security Council resolution 1718 (2006) required the DPRK to act in strict accordance with the NPT and its safeguards agreement, and to provide the Agency with transparency measures extending beyond those requirements. No State should be allowed to withdraw from the international non-proliferation system with impunity, having taken advantage of its Agency and NPT membership to gain access to nuclear material and technology under the pretext of a peaceful nuclear programme. In addition, the final document of the 2010 NPT Review Conference had strongly urged the DPRK to abandon completely and verifiably all nuclear weapons and existing nuclear programmes. Making it clear that the DPRK could not have the status of a nuclear-weapon State, the Conference had also urged the DPRK to adhere to its safeguards agreement and return to the NPT at an early date.

185. Since the outset of the DPRK nuclear issue, the Republic of Korea and other countries had engaged in diplomatic efforts aimed at the denuclearization of the DPRK. Despite the strenuous efforts of the international community, and in defiance of numerous Agency and Security Council resolutions, the DPRK had neither ceased developing its nuclear capabilities nor abandoned its nuclear ambitions. The DPRK had even launched an unprovoked attack on a naval vessel of the Republic of Korea in March 2010. The six-party talks — which had been stalled for over a year — would continue to be an essential dynamo for progress towards the denuclearization of the DPRK. Any attempt by the DPRK to avoid or weaken international efforts aimed at denuclearization would not be accepted. For the six-party talks to lead to substantial progress, the DPRK needed to demonstrate a change in its behaviour, in particular by displaying a sincere attitude towards denuclearization. The Republic of Korea would continue to collaborate closely with all countries involved, with the aim of persuading the DPRK to change its attitude.

186. The Agency's monitoring and verification role had been — and would continue to be — an essential part of the denuclearization process. Although the DPRK was currently refusing to cooperate with the Agency, the Republic of Korea hoped that the organization would be able to resume an active role and report on that to future Board meetings.

187. Mr EL AMIN (Sudan)*, speaking on behalf of the Arab Group, stressed the importance of the Agency's monitoring and verification of nuclear activities in the DPRK, since it was the only body entrusted with such a role. The Group supported international efforts to universalize the NPT, promote nuclear disarmament, and place all nuclear facilities under Agency safeguards. The final document of the 2010 NPT Review Conference had stressed the importance of the universalization of the NPT and the Agency's comprehensive safeguards regime. The Arab Group urged the parties concerned, especially those involved in the six-party talks, to make every effort to find a peaceful solution that would help reduce tensions on the Korean Peninsula. The involvement of the Agency in such efforts would preserve its pivotal role and credibility.

188. The Arab Group recalled resolution GC(53)/RES/17 on Israeli nuclear capabilities adopted by the General Conference at its 53rd session. The implementation of nuclear activities that were not subject to a comprehensive safeguards agreement with the Agency posed a clear threat to international and regional peace and security.

The meeting rose at 6.05 p.m.