

IAEA Board of Governors

Record of the 1202nd Meeting
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Strengthening the Agency's activities related to nuclear science, technology and applications: Nuclear Technology Review 2008

Board of Governors

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Record of the 1202nd Meeting

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¹ GOV/2008/8.

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. SKOKNIC		Chairman (Chile)
Mr. HOXHA	_____	Albania
Ms. FEROUKHI		Algeria
Mr. CURIA	}	Argentina
Ms. BOERO		
Mr. SHANNON	}	Australia
Mr. SMITH		
Mr. LAUNER		Austria
Mr. VALLIM GUERREIRO		Brazil
Ms. GERVAIS-VIDRICAIRE		Canada
Mr. LAGOS KOLLER		Chile
Mr. TANG Guoqiang	}	China
Mr. LIU Yongde		
Mr. HORVATIĆ		Croatia
Mr. KEBEDE		Ethiopia
Ms. KAUPPI		Finland
Mr. CARON		France
Mr. SANDTNER		Germany
Mr. BEKOE		Ghana
Mr. MUDGAL		India
Mr. ALSHARIA		Iraq
Mr. CONLON		Ireland
Mr. DE CEGLIE		Italy
Mr. AMANO		Japan
Mr. MAKSIMOVAS		Lithuania
Mr. DÍAZ		Mexico
Mr. ZNIBER		Morocco
Mr. OSAISAI		Nigeria
Mr. SHAHBAZ		Pakistan
Ms. DELA ROSA		Philippines
Mr. BERDENNIKOV	}	Russian Federation
Mr. KUCHINOV		
Mr. AL-TAIFI		Saudi Arabia
Mr. MINTY		South Africa
Mr. STEINMANN		Switzerland
Mr. SMITH	}	United Kingdom of Great Britain and Northern Ireland
Mr. DRAPER		
Mr. SCHULTE	}	United States of America
Mr. PYATT		

Attendance (continued)

Mr. ELBARADEI	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:

Afghanistan, Angola, Azerbaijan, Bangladesh, Belgium, Burkina Faso, Colombia, Côte d'Ivoire, Cuba, Czech Republic, Denmark, Dominican Republic, Egypt, Estonia, Greece, Guatemala, Holy See, Hungary, Indonesia, Islamic Republic of Iran, Israel, Jordan, Kenya, Republic of Korea, Kuwait, Latvia, Lebanon, Libyan Arab Jamahiriya, Luxembourg, Malaysia, Malta, Mongolia, Netherlands, New Zealand, Norway, Panama, Peru, Poland, Portugal, Romania, Serbia, Slovenia, Slovenia, Spain, Sri Lanka, Sweden, Syrian Arab Republic, Tunisia, Turkey, Ukraine, United Arab Emirates, Bolivarian Republic of Venezuela, Vietnam, Yemen, Zimbabwe.

Abbreviations used in this record:

CANDU	Canada deuterium-uranium [reactor]
CRP	coordinated research project
CSD	Commission on Sustainable Development
FAO	Food and Agriculture Organization of the United Nations
G-77	Group of Seventy-Seven
GIF	Generation IV International Forum
GNEP	Global Nuclear Energy Partnership
GPS	Global Positioning System
GRULAC	Latin American and Caribbean Group
HEU	high-enriched uranium
INPRO	International Project on Innovative Nuclear Reactors and Fuel Cycles
ITER	International Thermonuclear Experimental Reactor
LEU	low-enriched uranium
NEPAD	New Partnership for Africa's Development
NPT	Treaty on the Non-Proliferation of Nuclear Weapons
OECD/IEA	International Energy Agency of the OECD

Abbreviations used in this record (continued):

OECD/NEA	Nuclear Energy Agency of the Organisation for Economic Cooperation and Development
PACT	Programme of Action for Cancer Therapy
PATTEC	Pan African Tsetse and Trypanosomosis Eradication Campaign
PWR	pressurized 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
WANO	World Association of Nuclear Operators
World Bank	International Bank for Reconstruction and Development

3. Strengthening the Agency's activities related to nuclear science, technology and applications: Nuclear Technology Review 2008

(GOV/2008/3, plus additional documentation available on GovAtom; GOV/INF/2008/2,)

1. The CHAIRMAN, introducing the draft Nuclear Technology Review contained in document GOV/2008/3, explained that additional documentation related to the Review was available on GovAtom. The final version of the Review prepared in the light of the discussion in the Board would be provided to the forthcoming General Conference as an information document. The Board also had before it document GOV/INF/2008/2, "The FAO/IAEA Partnership — Information on Recent Developments", resulting from recommendations proposed by an independent external evaluation of the FAO. Both documents had been the subject of a briefing by the Secretariat for Member States on 22 February.

2. Mr. BURKART (Deputy Director General for Nuclear Sciences and Applications) said the draft Nuclear Technology Review summarized current developments and trends in nuclear science and technology in accordance with resolution GC(50)/RES/13. Of special importance was the development of nuclear applications which enabled Member States to address the Millennium Development Goals. Science and technology were being harnessed to tackle the pressing issues of climate change, fuel shortages and food insecurity. Developments in nuclear technology could increase the efficiency and productivity of agriculture, promote best practices in the treatment and diagnosis of disease, contribute to better management of water resources and the marine and terrestrial environments, and improve the safety, efficiency and quality of industrial production.

3. Four additional technical reports would be appended to the final version of the Nuclear Technology Review on: ensuring food quality and safety; stable isotope techniques to develop and monitor nutrition programmes; reference materials for trade and development; and, nuclear power and non-power applications in the context of climate change. The last of those reports had been prepared jointly by the Department of Nuclear Sciences and Applications and the Department of Nuclear Energy to illustrate the potential of nuclear science and technology to address today's rapidly evolving challenges. Nuclear applications did not offer a magic bullet to deal with those challenges, but could serve as valuable components of integrated solutions.

4. The document on recent developments in the FAO/IAEA partnership explained that it was the intention of the FAO to change the current partnership as part of its own reform process. A final decision would be made in November 2008. The partnership, which had lasted for over four decades, had had a significant impact on socio-economic developments in Member States by providing tools, through applied R&D of key technologies for ensuring safe food of sufficient quality and quantity. Those tools were especially important in the context of climate change and its impact on food and agriculture. He urged members to convey to their Governments the need for that ongoing partnership to continue.

5. Mr. SOKOLOV (Deputy Director General for Nuclear Energy) said the nuclear industry was continuing to evolve as companies prepared for much more business in the anticipated event of a renaissance of nuclear power. Since 2000, about 4 new reactors had been coming on line each year, and there were now 34 under construction. That figure would have to rise to around 100 to meet the higher projections now being made. History showed that industries responded to growing incentives. In 1979, when the world's industrial capacity was much smaller, there had been 233 reactors under construction at the same time in 30 countries. Also, the latest version of the so-called Red Book on

uranium resources, production and demand, to be published later in the year, would report a 17% increase in uranium resources.

6. As the Nuclear Technology Review noted, an acceleration of the rate of nuclear power growth would also require significant human resource development. Recent OECD/NEA studies showed a decline in nuclear education and training in recent decades. To avert the risk of a shortage of qualified manpower to regulate and operate existing nuclear facilities and build new ones, programmes of nuclear knowledge management were being expanded through international and nuclear industry organizations, academic networking and cooperative endeavours such as the Asian Network for Education in Nuclear Technology.

7. In addition to the power/non-power cross-cutting topic of climate change, the material supplementary to the Nuclear Technology Review available on GovAtom covered the nuclear power areas of: fast reactor research and technology development; development of advanced reprocessing technologies; and, instrumentation and control systems. Those topics had been chosen as subjects which had attracted special attention in the preceding year, and with a view to providing successive coverage of the development of specific nuclear technologies. Comments for incorporation in the final version of the Review, all of which would be welcome, should be submitted by 1 May 2008.

8. Mr. SHAHBAZ (Pakistan), speaking on behalf of the G-77 and China, commended the Secretariat on the comprehensiveness of the Nuclear Technology Review, which provided a broad perspective on nuclear technologies in both power and non-power applications. Rising expectations for nuclear power were reflected in the upward revision of mid-term projections by both the Agency and the OECD/IEA, which in turn had resulted in increased construction of nuclear power plants, especially in Asia. In that context, the Group took note with appreciation of the Agency's technical cooperation activities in the area of nuclear power. In 2007, with uprating of existing reactors and three new reactors connected to the grid, there had been a small increase of 2002 MW(e) in global nuclear generating capacity.

9. The Group, concerned at the significant increase in the market price of uranium, urged the Agency to make every effort, inter alia through CRPs or regional technical cooperation programmes, to address issues related to the front end of the fuel cycle such as mine development, the improvement of fuel behaviour and burnup, and the associated resource requirements. It should also explore the feasibility of using other fuels, especially thorium.

10. The Group welcomed the high level of confidence in both wet and dry storage technologies, which would help cope with the rising volumes of high level waste. It encouraged the Agency to continue promoting nuclear power as a viable option for sustainable development, as it had done at the 2007 CSD meeting in New York. It was regrettable that nuclear power had not been a principal topic of discussion at the 2007 United Nations Climate Change Conference in Bali.

11. As for the safety indicators of operational reactors, the significant reduction reported by WANO in unplanned scrams per 7000 hours critical and in industrial accidents at nuclear power plants was gratifying. Nevertheless, the collection, analysis and exchange of operating experience was a vital component of safety and international cooperation in that area should be stepped up.

12. The Group attached importance to human resource development, which was a matter of concern owing to the neglect of nuclear education and training in recent years. It welcomed the increase in membership of the Asian Network for Education in Nuclear Technology and the Agency's technical cooperation supported projects in that area. It urged the Agency to support a larger number of fellows from developing countries at the summer institute of the World Nuclear University.

13. The Group supported the activities conducted under INPRO and was looking forward to the publication of the common user criteria for nuclear power plants in developing countries.

14. He requested the Agency to keep the Group periodically informed of progress as regards international efforts in the area of nuclear fusion through the ITER project, developments in atomic and nuclear data, innovative reactors, accelerator-driven systems, medical diagnostics, therapeutic applications, and analytical techniques for cultural heritage artefacts and material composition. Also, the Group appreciated the efforts being made by the Agency to encourage the evaluation of interaction data for accelerator-produced charged particles to improve radiation therapy for cancer patients.

15. In the sphere of food and agriculture, the Group welcomed the official release of about 3000 mutant crop varieties, which now aimed at not just higher yields but also value-added produce that was more competitive, allowed diversified end use or addressed specific dietary needs. It appreciated the use of radiation techniques for the genetic enhancement of biomass crops to improve yield and efficiency. Applied radiation technologies had great potential for improving animal nutrition, reproduction and health, and the use of stable isotopes could help check the spread of animal-borne diseases. He hoped the Agency would continue supporting Member States in their projects in those areas. It should also continue its efforts to improve and expand the use of irradiation techniques such as the SIT to control and eradicate insects other than the tsetse fly, especially locusts.

16. The Group was deeply concerned at the recommendation by the independent external evaluation team on the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture, and especially at the action taken by the Director-General of the FAO in submitting a one-year notice of termination of the Joint Division's activities. Since its establishment in 1964, the Joint Division had been providing Member States, in particular the least developed countries, with positive results in the areas of crop enhancement, pest control and food and environmental protection. The preservation of those benefits and their tangible impact on the welfare and economic development of many Member States depended on continued cooperation between the FAO and the IAEA in the current framework. Recalling resolution GC(51)/RES/14, which highlighted those benefits, he urged that the Joint Division be retained and strengthened. The Group therefore endorsed the conclusion set out in document GOV/INF/2008/2.

17. With regard to human health, the Group appreciated the Agency's efforts, in collaboration with other international bodies, to develop international standards and codes of practice in food irradiation. Also, it welcomed the use of nuclear techniques such as positron emission tomography (PET) in cancer treatment and noted the technological advances being made in tumour localization and the delivery of accurate radiation doses. It appreciated the Agency's training programmes to increase the technical capacity of Member States in the use of stable isotopes and other nuclear techniques for the purpose of nutritional interventions.

18. The Agency could clearly play a positive scientific role in addressing the negative global effects of climate change. It should be encouraged to further strengthen the capacity of developing countries to use radioactive and stable isotopes and new nuclear techniques to address them. The Secretariat should continue to identify the future role of the Agency in measuring those effects and their impact on sustainable development, as well as the scope for synergies with the relevant scientific establishments of developing countries.

19. The Group welcomed the Agency's support for capacity building in Member States in the area of radiation processing of natural polymers for a range of uses in medicine, agriculture and biotechnology. The Agency could also provide technical support for Member States, through its cooperation projects and CRPs, in using advanced radioactive particle tracking to improve industrial processes.

20. Ms. BOERO (Argentina), speaking on behalf of GRULAC, said that nuclear technologies offered great scope for improving the quality of life in communities and for addressing challenges in health and agriculture, the management of water resources and the environment, power generation and industry. GRULAC welcomed the Agency's efforts to place developments in nuclear power within the reach of all interested users. She drew attention to the continuing work in the framework of INPRO, and the importance of nuclear databases. Also, GRULAC emphasized the importance of regional collaboration on research reactors, especially as regards improving the management of resources and technical knowledge, and of meeting regional needs for the production of radioisotopes.

21. Among nuclear technologies in agriculture and food production, the Group was especially interested in the use of isotopes to identify contaminants in soils and the work being done in insect pest control using the SIT, a technology with proven effectiveness in tackling health and productivity problems in developing countries.

22. Having acknowledged the good work done by the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture, she said GRULAC was concerned about the plans to change or put an end to the current partnership between the IAEA and FAO and the subsequent implications as regards the cooperation programme. She expressed GRULAC's support for the Secretariat's endeavours, in collaboration with Member States and the FAO Secretariat, to secure the continuation of the existing cooperation agreements between the two organizations.

23. GRULAC was keenly interested in the diagnostic, therapeutic and dosimetric applications of radioisotopes in nuclear medicine and radiotherapy, and hoped gradually to accede to them with the assistance of the Agency. It also took great interest in the activities generated by PACT, including the international forum held in Buenos Aires under Agency auspices in April 2007. The Group welcomed and supported the Agency's work on nuclear applications in the management of water resources and the environment, as well as in other fields. The Secretariat and Member States should cooperate through the exchange of experience in the various applications and should promote transfers of technology and the training of human resources, especially of personnel responsible for the operation and technical monitoring of nuclear equipment.

24. Ms. DELA ROSA (Philippines) said that, with technical assistance from the Agency, her Government had just established a National Environmental Isotope Laboratory that would enable the country to sustain its isotope hydrology work, undertake stable isotope analysis and initiate new projects such as climate change studies using stable isotopes and environmental radiotracers.

25. For the past 10 years, the Philippine nuclear agency had been conducting studies, in collaboration with end-users, on key groundwater issues: determination of recharge zones and recharge rates; vulnerability of groundwater to pollution; and, sustained yield. The major outcomes of those studies were: better understanding by local water districts of their natural resource, enabling them to better manage their aquifers and protect them from possible threats from pollution or over-exploitation; scientifically-based decisions by local officials for protecting the watershed; and, capacity building for the various sectors involved in the studies. A new study on landfills using stable isotopes might provide important scientific data to assess possible contamination of surface and groundwaters by leachate from landfills. Benchmark isotope and chemical data for groundwater and surface water near landfills were being established.

26. Her country noted with satisfaction the inclusion in the Nuclear Technology Review 2008 of a section on radiation processing of natural polymers. The project, initiated by the RCA in 1998, was based on a natural resource abundant in the Asia and the Pacific region. It had evolved from basic R&D to product development and ultimately to commercialization. In the Philippines, carrageenan

was used to produce an effective dressing for burns, wounds and bedsores. She requested the Secretariat to include carrageenan in the list of natural polymers being utilized under the project.

27. Mr. VALLIM GUERREIRO (Brazil) said that, against a background of increasing confidence in the safety and security of nuclear reactors and mounting demand for clean and dependable sources of energy, nuclear power would assume increasing importance for meeting future energy security challenges because of its capacity to generate electricity on an economically competitive and environmentally sound basis. INPRO and GIF, both of which were actively supported by Brazil, were providing important support for initiatives to improve the output efficiency, safety and security of existing nuclear power technologies. Considering that the two programmes had the same objectives and used the same criteria to assess innovative nuclear energy systems, enhanced cooperation and exchange of information between them should be sought.

28. Brazil took note with appreciation of the entry into force on 24 October 2007 of the Joint Implementation Agreement (JIA) relating to ITER. The Agency should continue to follow developments in ITER and act as a contact point for the initiative so that non-ITER partner members of the Agency could keep abreast of advances in the field of nuclear fusion. The Brazilian Ministry of Science and Technology had recently established a network of fusion research that would bring together the activities of various universities, research institutions and laboratories with a view to establishing priorities and fostering international collaboration. It was the initial step towards the establishment by 2010 of a national nuclear fusion laboratory.

29. Brazil supported the Reduced Enrichment for Research and Test Reactors (RERTR) Programme and welcomed the information in the Nuclear Technology Review 2008 on developments in research on uranium-molybdenum. However, the international community and the Agency must concentrate their efforts on developing the technology to produce and qualify high density fuel using LEU and transferring that technology to developing countries. Brazil's National Nuclear Energy Commission, which had been developing high density fuel using uranium-silicon and uranium-molybdenum alloys, considered international cooperation important to achievement of that objective.

30. Referring to section A.6 of the Review, he welcomed the fact that the decommissioning of a number of nuclear sites had been completed successfully in 2007, helping to allay unjustified concerns about possible complications at the end of the life cycle of nuclear power reactors. Brazil took note of the launching of the Network of Centres of Excellence for Decommissioning, which it hoped would contribute to the dissemination of knowledge and sharing of experience.

31. The Agency's activities in the application of nuclear technologies in food and agriculture were important, and the current cooperation framework with the FAO should be maintained and strengthened. Brazil had been employing nuclear techniques in various programmes aimed at enhancing quality and productivity in agriculture and thereby improving its capability to meet increasing internal and external demand for foodstuffs. He welcomed the conclusion in paragraph 8 of the Review about the potential of radiation techniques for the genetic enhancement of biomass crops for the production of biofuels. Brazil encouraged the Agency to continue to identify and support such nuclear applications, in particular involving plant species with a higher energetic potential.

32. Mr. AMANO (Japan) said that, after taking into consideration energy security and climate change, more and more Member States were beginning to contemplate the introduction of nuclear power. The international community therefore needed to envisage establishing an infrastructure to ensure nuclear non-proliferation, safety and security. At discussions in various forums about the introduction of nuclear power, Japan emphasized the importance of safeguards, safety and security. The Agency had already taken steps to promote the peaceful development of nuclear power, such as by preparing the document *Milestones in the development of a national infrastructure for nuclear*

power, and should play an even more significant role in that area. To support such efforts, Japan was preparing to make an additional contribution to the Agency.

33. Japan also placed great value on the non-power applications of nuclear technology, especially in human health, and had not only contributed financial and human resources to PACT but also had been an active RCA participant. By holding training courses, among other initiatives, it had made a positive contribution to improving the nuclear technology used in cancer therapy. It hoped that the advances already made in nuclear science, technology and applications could be built upon.

34. Ms. GERVAIS VIDRICAIRE (Canada) said her country took special note that the Agency was seeing increased interest in nuclear power. While Canada welcomed the technical and detailed nature of the Nuclear Technology Review, it considered that the Agency must provide objective information to decision-makers and policy-makers by producing a high level report on nuclear power.

35. In that context, it congratulated the Secretariat on publishing the document *Milestones in the development of a national infrastructure for nuclear power* and its work on highlighting issues to be addressed during the development of a nuclear power programme. Canada welcomed the creation of the infrastructure development working group in the GNEP but considered that the Agency should continue to play a central role in infrastructure requirements for new nuclear power projects. It should likewise play an active role in the United Nations CSD in view of the fact that the use of nuclear energy did not produce greenhouse gases.

36. With reliance on nuclear energy increasing, Canada looked forward to working with the Agency to better understand future trends and their implications. It was pleased that Member States were collaborating on future nuclear energy systems through INPRO, GIF and GNEP and was itself playing an active role in all three. It looked forward in particular to contributing to three INPRO projects: the GAINS Project on global architecture for innovative nuclear energy systems; large-scale thorium utilization; and, proliferation resistance assessment of the direct use of PWR fuel in CANDU reactors. It had contributed to INPRO's common user criteria, which should be useful in bringing together a wide range of potential nuclear power users with differing levels of infrastructure and experience. Canada was hosting the World Nuclear University's summer institute in 2008 and hoped to see widespread participation in that valuable forum for nuclear education.

37. In a clear indication of its confidence in nuclear power, her Government had allocated an additional \$300 million for the operations of its atomic energy provider, including for the development of its advanced CANDU reactor design and for the safe, reliable operation of the Chalk River Nuclear Laboratories. Pressurized heavy water reactors, which were operated by many Member States, had a strong future and presented unique technical considerations. The Agency should therefore retain its working group on pressurized heavy water reactors.

38. Canada remained the global leader in the production of medical isotopes used worldwide in the diagnosis and treatment of disease and in applications ranging from heart disease and cancer diagnosis to the treatment of hyperthyroidism. It continued to supply cobalt-60 based technology used to sterilize an estimated 80% of the world's disposable medical supplies. The Secretariat must continue its work related to the production, transport and use of those isotopes.

39. Mr. KEBEDE (Ethiopia) said that both the FAO and the IAEA had been playing crucial roles in supporting his country's development efforts. The Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture had been instrumental in supporting Ethiopia's work to eradicate the tsetse fly and trypanosomosis, which were hindering animal productivity in the south-west. Successful capacity building had been carried out through close collaboration between his Government, the IAEA, the FAO and other organizations and Member States. The critical stage of controlling and eradicating tsetse flies using the SIT as part of area-wide integrated pest management had now been reached.

40. Ethiopia's Southern Rift Valley Tsetse Eradication Project was a model project expected to benefit 36 other African States that were severely affected by the problem. Ethiopia supported changes intended to yield more efficient mechanisms to achieve the objectives of both the FAO and the IAEA and called for both those organizations to enhance the support available to the least developed Member States under the present joint arrangement. It welcomed the Secretariat's commitment to work with the FAO to retain and reinforce the current partnership between the two organizations.

41. Mr. LIU Yongde (China) said that the Nuclear Technology Review offered a concise overview of the progress made by nuclear technology in various fields. It provided not only important information on the status of nuclear technology and the latest trends worldwide but also a basis for planning national efforts to develop nuclear technology. The Secretariat should continue to do a good job in collecting and compiling such information in future Reviews.

42. The year 2007 had seen an increase in nuclear power use worldwide and a nuclear power boom in Asia in particular. Against the backdrop of a nuclear revival, the Agency should play its unique role and give specialized assistance to developing countries to ease the pressures of increased energy needs and environmental pollution. The Chinese Government had adopted a strategic policy of vigorous nuclear power development and hoped to receive help with that drive from the Agency. It had participated actively in the INPRO project and the organization of seminars to promote the construction of nuclear power infrastructure in emerging nuclear power countries. China supported the Agency's playing an important role in such areas as accelerator and research reactor applications, fusion technology, nuclear desalination and small and medium-sized reactors.

43. In response to the needs of Member States, the Agency had worked to promote the wide application of nuclear technology, with notable social and economic impact. It should seek to play a more positive role in social and economic development in Member States, particularly developing countries. China supported the Agency's continued efforts to strengthen the application of nuclear technology in such areas as industry, food and agriculture, human health, water resource management and environmental protection.

44. As the largest developing country, China attached great importance to food security and agricultural development and was concerned about the possible suspension by the FAO of its cooperation with the Agency. Since its creation in 1964, the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture had made important contributions to increasing food production, improving livestock productivity, eradicating pests, reducing hunger and poverty and protecting the environment. That cooperative mechanism had proved to be effective and efficient and should be further strengthened, not abolished or weakened. China hoped that consultations and communication between the FAO and that the Agency would be enhanced and the views of Member States would be taken into account with a view to finding a solution to that issue.

45. Mr. SMITH (Australia) said that the broad coverage in the draft Nuclear Technology Review of non-power applications demonstrated the many areas in which the application of nuclear techniques could benefit mankind and provided a useful canvas against which to consider where the Agency should focus its efforts.

46. The additional documents available on GovAtom provided helpful detail. In particular, the paper on nuclear power and non-power applications in the context of climate change covered the direct and indirect means by which nuclear technology could help address that global challenge. Nuclear techniques, including isotopic techniques for reconstructing past climates using records stored in ice cores, provided information that was fundamental to understanding the science of climate change.

47. The Agency's projections of nuclear power capacity to 2030 and their comparison with projections from other sources provided a helpful framework for considering resource requirements, including demand for uranium. Australia noted with satisfaction that the Agency continued to work with the OECD/NEA on the revision of the so-called Red Book on uranium resources, production and demand, due for publication by the OECD in mid 2008, and was looking forward to hosting the next meeting of the Joint IAEA/NEA Uranium Group to prepare that revision. The statistics and projections in the Red Book helped sustain a well-functioning system for uranium supply.

48. Paragraph 111 of the Nuclear Technology Review referred to the emerging interest in the establishment of new facilities for the production of molybdenum-99 using LEU targets. Australia had been engaged in such production for many years and was currently upgrading its capacities in that regard. In December 2007, it had hosted a workshop on the subject which had provided a valuable forum for discussing the status of molybdenum-99 production worldwide. The discussion had identified the challenges to be overcome in order to expand the use of LEU technology and thereby reduce reliance on HEU for production of that radioisotope.

49. Mr. DRAPER (United Kingdom), commending the Secretariat for the high standard of the draft Nuclear Technology Review, said that the Board had been kept updated on developments concerning his country's public consultation on nuclear energy, to which paragraph 21 of the report referred. Following the comprehensive public consultation exercise, his Government had published a White Paper in January entitled "Meeting the Energy Challenge". The White Paper had stressed that it was in the public interest for nuclear energy to continue to form part of the United Kingdom's low-carbon energy mix and help it meet carbon reduction targets and ensure secure energy supplies. His delegation was confident that, by working with operators and upholding the highest regulatory standards, the United Kingdom could deliver a framework that would enable energy companies to begin construction of the first new nuclear power station as of 2013. There had already been clear expressions of interest from industry for building new nuclear power stations in the United Kingdom and his Government would soon be organizing a major nuclear investors conference in London.

50. The United Kingdom had completed consideration of the merits of the GNEP in the light of the nuclear energy White Paper and on 26 February 2008 Secretary of State John Hutton had signed the statement of principles. Thus, the United Kingdom had become the 21st country to join the partnership. The United Kingdom shared the GNEP's vision to improve non-proliferation and fully recognized that international cooperation could help the worldwide development of nuclear energy for peaceful purposes in a safe and secure manner.

51. All those developments showed the United Kingdom's increasing engagement in the future international development of nuclear power.

52. Mr. SHAHBAZ (Pakistan), speaking on behalf of his own country, said that the Nuclear Technology Review was very useful to Member States in formulating their programmes for peaceful applications of nuclear technology.

53. While the Review gave encouraging projections for global growth in nuclear power, sustainable development and safe operation would only be possible if all interested countries cooperated with each other on the construction of nuclear power plants, the supply of nuclear fuel, manpower training and information exchange. As growth prospects remained centred in Asia, the initiation of cooperation programmes would be a welcome step towards enhancing nuclear power in the region. The Agency could play a useful role in the development of national infrastructures to support that growth.

54. Pakistan was working towards adding more nuclear power plants in order to meet the target of 8800 MW(e) nuclear capacity by 2030 as envisaged in its energy security action plan. Construction of four 300 MW and seven 1000 MW plants was planned. The Pakistan Atomic Energy Commission had

started capacity building in design, engineering, construction, installation, equipment manufacture, fuel manufacture and manpower and had been stepping up its activities in nuclear materials exploration, mining and fuel fabrication. Implementation of the plan would help alleviate electricity shortages and contribute towards the socio-economic development of the country.

55. Construction of the third nuclear power plant in Pakistan, CHASNUPP Unit-2, was proceeding apace. An important milestone, the containment dome placement, had been completed in December 2007. Plant construction was scheduled for completion by the year 2011.

56. Conscious of the importance of tokamak fusion, Pakistan had launched a national tokamak fusion programme to promote human resources and capacity building and train the scientific, engineering and technical manpower concerned. Also in the fusion field, theoretical and experimental research on ITER would have valuable spin-off benefits. The Agency, which had been associated with ITER for a number of years, could play a prominent role in promoting awareness in that important area, particularly among the developing countries. It could act as an important contact point for ITER's education and training activities and, furthermore, Member States that were not ITER partners might be encouraged to participate.

57. The need for portable field gamma spectroscopy systems for terrestrial radionuclide monitoring, especially in the case of radiological or nuclear emergencies, could not be overemphasized. Pakistan urged the Agency to allocate funds for technical cooperation projects in order to facilitate the commissioning of such systems by interested Member States.

58. Pakistan was carrying out studies of the marine coastal environment, harmful algal bloom, seafood safety, the radiological impact of nuclear power activities and the assessment of post-tsunami disasters. A number of facilities for those studies had been established with the technical cooperation of Agency and RCA projects. They were being extensively used in many ecological investigations along Pakistan's coast and were being shared at national and regional level with interested Member States.

59. The Joint IAEA/FAO Division of Nuclear Techniques in Food and Agriculture had been providing Member States, in particular the least developed countries, with concrete and positive results in the areas of crop enhancement, pest control and food and environmental protection. In a world with growing food shortages, an increasing population, decreasing natural resources, globalization problems, and climatic changes beyond the control of agricultural experts those results were significant. In view of the importance of the FAO remaining a formal partner in the Joint Division, every effort should be made to avoid terminating that relationship.

60. The availability of suitably qualified and trained manpower was an important element in the development of nuclear science and technology. It was interesting to note that the current trend in university enrolment in subjects relating to nuclear science and technology had registered only modest growth. Thus, universities and advanced centres of learning must be encouraged to offer more courses on related subjects. The Agency could contribute by strengthening its academic fellowship programme under the human resource development component of its technical cooperation activities.

61. Mr. KUCHINOV (Russian Federation) said that the draft Nuclear Technology Review 2008 was an excellent document which objectively reflected the situation in a number of areas relating to nuclear science and technology and their applications, as well as the Agency's activities in those areas.

62. The Review found that in 2007 rising expectations for nuclear power had started to translate into increased construction. The Russian nuclear sector would be participating actively in that process both in Russia and abroad.

63. His delegation stressed the importance of the results achieved under the Agency's INPRO. The project was helping to build competence for developing and deploying innovative nuclear energy systems and was assisting Member States in coordinating related collaborative projects. INPRO played an outstanding role in elaborating a comprehensive approach to infrastructure development in countries planning to introduce nuclear energy as part of their energy programmes.

64. The Agency also carried out important work in creating the conditions for the broad application of nuclear energy in peaceful non-power areas, including medicine, industry and agriculture.

65. His Government was continuing its efforts to implement President Putin's initiative to establish a global infrastructure for nuclear power. Based on a system of international centres providing nuclear fuel cycle services under the control of the Agency, the system would allow equal access to nuclear energy for all interested countries while guaranteeing compliance with the requirements of the non-proliferation regime. An International Uranium Enrichment Centre (IUEC) had been set up in Angarsk to ensure guaranteed access to uranium enrichment for countries that did not have such capacities of their own and to provide them with LEU for their nuclear power needs. The Centre, which would not transfer its uranium enrichment technology to participating States, had been created jointly by Russia and Kazakhstan and had been joined by Armenia in February 2008. Consultations were under way with the Secretariat to define the parameters of Agency participation in the Centre.

66. With a view to implementing the Russian initiative, and in response to the Director General's initiative on multilateral approaches to the nuclear fuel cycle, consideration was being given to establishing a stock of LEU for guaranteed supplies to third countries at the Agency's request. That stock was to be sufficient to prepare fuel for two complete loads for the most common reactor types with an output of up to 1000 MW, or around 120 tons of LEU. An agreement between the Government of the Russian Federation and the Agency on the establishment, on Russian territory, of such a stock was being drawn up for signature once the necessary approvals had been given in Russia and in the Board of Governors. The establishment of a guaranteed supply and the use of material from it were not contingent upon a State recipient renouncing its rights to develop and use its own nuclear technologies for peaceful purposes.

67. A number of points in the draft Review needed clarification. Paragraph 15 should be corrected with regard to the construction of nuclear power units in Russia to read: "Severodvinsk – two 35 MW(e) units as part of the Akademician Lomonosov floating nuclear power plant". In paragraph 71, the name of the reactor should be corrected to read "Jules Horowitz Reactor (JHR)".

68. Mr. LAGOS KOLLER (Chile) said that advances in nuclear technology, in particular in the area of nuclear power generation, offered a real option for assuring energy supply, limiting greenhouse gas emissions and slowing down climate change in a growing number of countries.

69. In respect of non-power applications, Chile was working on R&D for nuclear technology applications and was promoting knowledge on and the utilization of nuclear research reactors and the transfer of related technologies for use in the country's production and service sectors. The RECH-1 research reactor, now completely converted to run on LEU, produced radioisotopes for use as tracers in medicine and industry and for dating geological material. That work was having a positive impact in the areas of health, mining, agriculture, the environment and food.

70. In agriculture, Chile was developing and applying isotopic techniques for crop analysis, optimization of irrigation water and nutrients, pest control and mitigation of soil degradation.

71. In the health sector, Chile had been increasing the use of processed radiosterilized biological tissue, including human skin, pig skin, amniotic membrane and human bone, in the treatment of persons with severe burns. With regard to the early detection of cancer, a disease which in Chile

afflicted some 200 000 persons and caused more than 20 000 deaths annually, reactor and cyclotron radioisotopes were being produced and distributed to the country's 48 nuclear medicine centres for diagnostic and therapeutic applications.

72. Analyses employing stable isotope techniques were being used to study water resources in arid and semi-arid areas.

73. In the mining sector, radiotracers were used to characterize various metallurgical processes with a view to optimizing production while at the same time protecting the environment.

74. His delegation shared the concern expressed by other speakers about the possible suspension of the cooperation agreements between the FAO and the Agency and the resulting financial implications for the cooperation programme, in particular in the area of food and agriculture. His Government supported the Agency in its efforts to maintain and strengthen cooperation with the FAO. Chile could testify to the relevance of those joint projects as its fruit exports had greatly benefited from application of the SIT to eradicate the fruit fly.

75. Mr. MAKSIMOVAS (Lithuania) said that the three Baltic States and Poland had reached an agreement on building a nuclear power plant in Lithuania. An environmental impact assessment, due to be finalized in February 2009, was being elaborated by the Lietuvos Energija company, which had been authorized to carry out the preparatory work for the new plant.

76. Another important joint initiative was the project to interconnect the Lithuanian and Polish power systems with the Latvian, Estonian, Finnish and Swedish power systems, thereby completing the Baltic energy ring and ensuring the operational security and reliability of Baltic power grids through their integration into the common European power market and connection to the UCTE (Union for the Co-ordination of Transmission of Electricity) system. On 12 February 2008, the representatives of the companies operating the electricity transmission system in Lithuania and Poland had signed a shareholders agreement on a joint venture to implement the project, which had been included in the priority list of European Union projects and was to be completed by 2012–2015.

77. Lithuania greatly appreciated the timely and effective role played by the Agency in assisting the Baltic States in implementing the new nuclear power plant project and thanked it for organizing the subregional meeting on challenges and opportunities related to the establishment of a new nuclear power plant in the Baltic region, held in June 2007 in Vilnius. Lithuania looked forward to hosting another important event in May 2008 in Vilnius, namely the regional workshop on safety requirements, technology assessment and the bidding process for new nuclear power plants.

78. Nuclear knowledge management and human resources were of paramount importance for the development of the nuclear industry and the safe decommissioning of nuclear facilities. His delegation welcomed the Agency's recent decision to launch the new Network of Centres of Excellence for Decommissioning to improve the flow of knowledge and experience among those active in decommissioning and to encourage organizations in developed Member States to contribute to the activities of Member States requiring assistance in that regard. That initiative would provide an excellent forum for sharing experience and receiving the requisite expertise in the field.

79. Lithuania, which planned to decommission existing reactors and build a new nuclear power plant, attached high priority to the development of a national programme devoted to the education and training of nuclear energy specialists, one objective being to retrain staff at the Ignalina nuclear power plant. It looked forward to participating in the Agency's meeting of senior officials on nuclear knowledge management, to begin on 14 May 2008 in Vienna. It was prepared to not only engage actively in discussions on emerging concerns about knowledge management and expertise in nuclear

science, technology and applications but also to consider plans and strategies for building, maintaining and preserving such knowledge using a regional and interregional approach.

80. To share in a common approach to the development of nuclear power in a safe and secure manner, Lithuania had signed the GNEP statement of principles on 18 September 2007 and in the following December had attended the first meeting of the GNEP steering group. His Government was determined to pursue its involvement in GNEP activities.

81. His delegation endorsed the Agency's work aimed at building competence for developing and deploying innovative nuclear energy systems and promoting understanding for the needs of technology users. Lithuania was one of eight countries which had helped draw up the first draft document on common user criteria for the development and deployment of nuclear power plants in developing countries.

82. His delegation appreciated the Agency's assistance in the areas of radiotherapy, radiation oncology and diagnostic radiology. The linear accelerator purchased under a national technical cooperation project with partial Agency funding was now being commissioned and a number of Lithuanian oncologists and radiotherapists had received training under the project. Practical measures had been taken in Lithuania in diagnostic radiology, in particular in the area of radiation protection for patients. In the near future, Lithuania intended to focus its efforts on training professionals in nuclear medicine, including in positron emission tomography (PET) and was looking forward to cooperating with the Agency in that area.

83. Mr. ALSHARIA (Iraq) said that the Nuclear Technology Review clearly showed the significant potential that civilian nuclear technologies and applications offered to developing countries when used in a safe manner, particularly in the areas of in human health, power generation, water resources management, agricultural development, food improvement and environmental protection.

84. Iraq looked forward to regaining a role in those sectors by stepping up its technical cooperation activities with the Agency. It also stressed the importance of achieving a balance between Agency verification activities and its activities to promote nuclear technology and its applications in developing countries.

85. Paragraphs 94 to 97 of the document referred to nuclear technological advances in cancer diagnosis and treatment. In the past, Iraq had had an advanced civilian nuclear programme, especially in the health sector, but equipment and expertise in nuclear medicine and in radiotherapy had been profoundly affected by the events of the past two decades,. Most of the equipment required continuous maintenance and it had not been possible to replace the radioactive sources as required. As a result, treatment for cancer in Iraq had deteriorated considerably. Iraq urgently needed assistance from the Agency to obtain the necessary expertise and equipment so that it could meet the growing demand for cancer treatment.

86. Mr. STEINMANN (Switzerland) said that the draft Nuclear Technology Review reflected a considerable increase in activities in the field of power applications. If that trend continued, it should go hand in hand with enhanced nuclear safety, more efficient technologies and strengthened international cooperation on fuel cycle technologies. However, such cooperation required confidence building and, consequently, greater transparency and progress in the sphere of non-proliferation. Ensuring access to the benefits of nuclear power to as many States as possible while reducing the barriers to acquiring that energy, would be possible only if confidence among those States was enhanced by making both civilian and military nuclear programmes more transparent.

87. The report did not mention that 2008 marked the 50th anniversary of international nuclear fusion research, which had been initiated at the second "Atoms for Peace" conference held in

1958. The States currently collaborating in the construction of ITER represented a majority of the world's population. He invited all present to attend the IAEA Fusion Energy Conference, scheduled to be held in Geneva from 13–18 October 2008 to commemorate that anniversary.

88. Mr. PYATT (United States of America) expressed strong support for the expansion of nuclear power. In the United States, nuclear power made an important contribution to energy security without creating air pollution or producing greenhouse gases. United States reactors accounted for 30% of the world's nuclear power generation and were operating at over 91% of available capacity. There was no doubt that his country's reactor fleet would grow.

89. The benefits of the responsible development of nuclear power should be available to developed and developing countries alike around the globe. On 3 July 2007, the Presidents of the United States and the Russian Federation had issued a "Declaration on Nuclear Energy and Nonproliferation Joint Actions", expressing their intent to play an active role in making the advantages of peaceful nuclear energy available to a wide range of interested States, in particular developing countries, and to initiate a new format for enhanced cooperation to that end. The two countries would support the expansion of nuclear energy by: facilitating the supply of a range of modern, safe and more proliferation-resistant nuclear power and research reactors to meet countries' varying energy needs; facilitating and supporting financing to aid the construction of nuclear power plants; developing solutions to deal with the management of spent fuel and radioactive waste; ensuring that the Agency had the necessary resources to meet its safeguards responsibilities; and, supporting expanded Agency technical cooperation to help States build the necessary infrastructure for the safe, secure and reliable operation of nuclear power plants. The Nuclear Technology Review should take note of that important initiative in section A.7.

90. The GNEP was another important initiative, which sought to promote the expansion of peaceful nuclear energy in a safe and secure manner while reducing the risk of nuclear proliferation. The partners were committed to working with each other and the Agency and to respecting the rights and unique needs of all countries considering nuclear energy.

91. The growing demand for nuclear fuel and fuel cycle services would increase consideration of mechanisms to assure the supply of nuclear fuel. The establishment of a voluntary mechanism at the Agency for reliable access to nuclear fuel would be an important step. Countries considering nuclear energy must have the confidence that they would be able to obtain a predictable, cost-effective and long-term supply of nuclear fuel. A well-functioning market and a voluntary backup mechanism would support the expansion of nuclear power worldwide while providing a viable alternative to the spread of sensitive fuel technologies. At the same time, no country would have to forfeit its rights under the NPT.

92. The framework proposed by the Director General provided a good basis for discussion of further development of appropriate mechanisms. His delegation welcomed the input from various Member States and encouraged the Agency to play a leading role in consultations in that regard. A diversity of approaches would enhance confidence, allow for flexibility and provide complementary options for countries considering nuclear energy. As repeatedly affirmed by the General Conference, including in resolution GC(51)/RES/14, the Agency had an important role to play in "facilitating through international cooperation among interested Member States, the development and use of nuclear energy for peaceful purposes".

93. Likewise, his delegation welcomed the progress made by the Agency and the Russian Federation in the establishment of a fuel reserve to be located at Angarsk and was following with great interest the German proposal of a multilateral enrichment sanctuary project.

94. The United States had made much progress with the downblending of HEU for use as a nuclear fuel reserve. The first core load of fuel produced that way should be ready by the end of 2008 and it was anticipated that the entire process would be completed by 2010.

95. The Agency's activities aimed at identifying the infrastructure requirements for countries considering nuclear power, including the publication in 2007 of the document entitled *Milestones in the Development of a National Infrastructure for Nuclear Power*, were particularly relevant. The United States would support such action through extrabudgetary contributions for programme activities and technical cooperation projects, and looked forward to receiving a comprehensive report on the international status and prospects of nuclear power.

96. The United States had provided strong financial and in-kind support to the Agency's activities relating to non-power applications of nuclear technology, especially the isotope hydrology programme and ongoing efforts to use the SIT to control, and perhaps someday eliminate, the tsetse fly in the Southern Rift Valley in Ethiopia.

97. Mr. MINTY (South Africa) underlined his country's full support for the Agency's activities relating to power and non-power applications of nuclear technology. The Nuclear Energy Corporation of South Africa (NECSA), the third largest supplier of medical isotopes in the world, sold isotopes to more than 50 countries and was also engaged in accelerator-based isotope production. The growing need for cancer diagnosis and treatment and other medical applications meant that the production of radioisotopes played an increasing role in promoting human health.

98. His delegation was deeply concerned about the possible termination of the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture, as reported in document GOV/INF/2008/2. That would have significant negative consequences for developing Member States in many areas. The Joint Division continued to play an invaluable role in providing assistance to developing countries in the areas of crop enhancement, pest control and food and environmental protection. It was therefore critical that the current cooperative framework continued so as to ensure the retention of those benefits.

99. The Joint Division was currently responsible for technical support of some 220 national and regional Agency technical cooperation projects providing recipient Member States with equipment, expert advice and training. The 44% increase in active projects in agriculture between 2002 and 2007 demonstrated the value of the Division's work. Its closure would have long-term consequences on the Agency's current programmes, including the tsetse pilot project in Ethiopia, human capacity building in pesticide residue analytical services, and current work related to the early response to avian influenza.

100. South Africa, like many developing countries, had benefited greatly from the work of the Joint FAO/IAEA Division. It reaffirmed its support for the FAO SIT-based pilot project against the false codling moth (*Thaumatotibia leucotreta*) and PATTEC and welcomed the Agency's efforts to further build capacities and develop techniques for integrating SIT with other control techniques in sub-Saharan Africa.

101. Since no final decision had yet been adopted regarding the future of the Joint Division, he called on all Member States to coordinate positions in order to find a sustainable solution to the matter.

102. Issues pertaining to decommissioning and waste were crucial and needed to be addressed as a matter of priority. South Africa welcomed the launch of the new Network of Centres of Excellence for Decommissioning at the General Conference in September 2007, which would assist Member States in drawing on expertise and experience from developed Member States engaged in decommissioning.

103. He reiterated the important role of the Agency in enhancing NEPAD and its targets, which were based on achieving the Millennium Development Goals. The Agency should further strengthen its cooperation with the African Union and NEPAD, align its African projects with those of NEPAD and plan regional projects in cooperation with African regional economic communities.

104. Mr. HORVATIC (Croatia), having commended the Secretariat on its preparation of the latest Nuclear Technology Review, drew attention to the planned significant nuclear expansion in several countries, particularly in Asia. That signified a renaissance of nuclear energy after decades of standstill.

105. There had been not only considerable improvements in operation in the wide range of fission reactors available but also steady progress in controlled nuclear fusion research, with self-sustainable burning plasma being the next major goal. In that context, the Agency's INPRO project provided an open international forum for studying nuclear power options and associated requirements. It helped build competence for developing and deploying innovative nuclear energy systems and assisted Member States in coordinating related collaborative projects. The GNEP was one such cooperative, multi-State effort which aimed to expand nuclear energy worldwide, accelerate the development and deployment of advanced fuel cycle technologies, improve the environment and reduce the risk of nuclear proliferation.

106. The wide range of applications of nuclear techniques in food and agriculture included induced crop mutation, insect pest control (SIT and related programmes), food irradiation and enhanced biofuel generation. All of those contributed to improving human health, nutrition and standard of living.

107. Croatia was one of the many countries that had set targets and timescales for supplementing gasoline with fuel from renewable sources. The production of ethanol and biodiesel would need to be increased to meet those targets.

108. Radioisotopes made a significant contribution to improving human health. Radiation technology had also provided a highly advantageous means of grafting polymers. Some of the most important nuclear applications in medicine were in nuclear cardiology using positron emission tomography (PET) as well as computed tomography (CT) and hybrid systems. In that connection, he noted that Croatia was host to the first PET centre in the region.

109. Improving the detection of radionuclides for terrestrial environmental assessment was an important goal. Field gamma spectroscopy had numerous applications, including estimation of radioactivity in surface soils, assessment of gamma radiation fields and location of orphan sources. In the event of a nuclear accident with widespread distribution of artificial radionuclides in the environment, aerial measurements were an important tool for rapid and large-scale nuclide specific determination of soil contamination. The use of the GPS to provide accurate location data, along with developments in data analysis techniques, had resulted in significant improvements in recent years.

110. Utilizing ionizing radiation for inactivating microbes was an established technology in food hygiene, radiation sterilization of medical products and biological tissues and the treatment of sewage sludge, which had been used in Croatia for several years. More recently, the use of radiation technology to lower the threat from biological contaminants, such as anthrax in mail, had demonstrated the utility of ionizing radiation to help combat terrorism.

111. In conclusion, he pledged Croatia's full support for all international efforts undertaken in the field of cooperation in nuclear technology.

112. Mr. LAUNER (Austria), referring to the most recent developments with regard to the long-standing FAO/IAEA partnership, said that the Joint FAO/IAEA Division of Nuclear Techniques

in Food and Agriculture was a model of inter-agency partnership ensuring that the technical capacities of both organizations were utilized to the full for the benefit of their Member States. Notwithstanding Austria's full support for FAO reform efforts, the possible termination of the partnership between the two agencies would be extremely regrettable. Since the FAO's policy-making organs had yet to take a final decision in that regard, his country would continue to support the continuation of that fruitful cooperation in the competent forums.

113. Mr. CARON (France) concurred with the general analysis made in document GOV/2008/3 that all Agency Member States, regardless of whether they had a nuclear power programme, could benefit from research into nuclear applications.

114. Nuclear power should be developed so that it helped respond to growing global energy needs in a safe and competitive way that counteracted climate change. As the Agency itself had concluded, nuclear energy was a good option for sustainable development. France, which had just authorized construction of a European pressurized water reactor at its Flamanville site, had for the past 30 years been pursuing an energy policy largely based on nuclear-generated electricity, guaranteeing it a high degree of energy autonomy. It was ready to share its expertise with all countries that were committed to non-proliferation and the peaceful use of nuclear energy. France attached importance to the responsible development of nuclear power and would ensure that such cooperation took place within a framework that facilitated safety, security and proliferation resistance, in strict compliance with the highest international standards.

115. The Agency had a statutory mandate to promote cooperation among Member States in the development of the peaceful applications of nuclear energy and France welcomed resolution GC(51)/RES/14 reaffirming that major role. Its authorities were firmly committed to cooperating closely with the Agency in that area, for example in the context of tripartite projects involving the Agency, the interested Member State and France.

116. France was participating actively in Agency efforts relating to the establishment of the nuclear infrastructures needed for safe and efficient nuclear power generation. It considered that any engagement in a nuclear power programme was a long-term decision, implying the assumption of responsibilities by the interested State. Financing the acquisition of nuclear equipment required in-depth analysis in partnership with international financial institutions, especially the World Bank. His delegation was awaiting with interest the relevant report of the Secretariat on the issue as requested by the General Conference. France would continue to participate in future regional and national Agency infrastructure-related events like the International Ministerial Conference on Nuclear Power for the 21st Century held in Paris in 2005. The Ministerial Conference on the Future Application of Nuclear Power, scheduled to be held in Beijing in April 2009, would provide a further opportunity to take stock and strengthen support for the Agency's activities.

117. The development and transfer of nuclear technology must be part of a long-term plan. His country would assist the Agency in determining a global approach, enabling countries wishing to develop a nuclear power capability to meet all their training needs and establish an appropriate national strategy. France hoped to further enhance its cooperation with the Agency in the area of training and had recently strengthened its capacities through the creation of an international postgraduate course in nuclear engineering.

118. France was participating actively in the global debate on multilateral approaches to the fuel cycle and would continue its engagement in initiatives to provide multilateral fuel supply assurances, for example in the form of a fuel bank. All proposals deserved consideration and it was important to promote pragmatic solutions that took account of the realities facing the industry and met the highest safety standards, an aspect crucial for public acceptance.

119. France currently chaired the GIF, which brought together countries that were aware of the need for new nuclear technologies that were safer, more competitive, made better use of uranium resources, produced less waste and were more proliferation resistant. His delegation was pleased that China had become a fully-fledged member of the GIF in 2007.

120. France had signed a multilateral draft agreement on sodium-cooled fast neutron nuclear reactors in 2007. That agreement contemplated a range of advanced fuel R&D activities and addressed such issues as timeline, financing and expected results. France had also signed a memorandum of understanding with the United States of America and Japan on 31 January 2008 aimed at harmonization of the development of sodium-cooled fast neutron nuclear reactor prototypes in those countries so as to avoid duplication of effort. In that context, France planned to launch its fast reactor prototype by 2020, and expected that it would be an extremely useful tool for validating the initial results and the pertinence of the work of the GIF.

121. France was also participating in the Agency's INPRO project, which was an open forum for studying nuclear power options. It could provide highly relevant input in the area of evaluation methodologies for developing countries wishing to use nuclear power. France welcomed and supported efforts to coordinate INPRO and GIF.

122. His Government welcomed the establishment of an Executive Committee and a Steering Committee for GNEP, both of which had already met for the first time, and also the establishment of two working groups on supply assurances and infrastructure development.

123. Cadarache in France had been chosen as the site for construction of the ITER reactor. In that connection, a graduate course in fusion open to both French and international students had been introduced in September 2007, which would help maintain a high-level scientific community in France and Europe.

124. In the field of research, which was the key to the development of sustainable nuclear energy, a new research reactor, the Jules Horowitz Reactor (JHR), was currently being built on the Cadarache site. It would be used for fuel and irradiated materials experiments and the production of radioisotopes for medical applications and would be operated in the framework of an international consortium agreement.

125. The Agency's programmes on nuclear technology applications in the spheres of health, agriculture and natural resource management, were of particular relevance to many Member States. France, aware of the growing demand for them, would continue to lend its support. In particular, it would support implementation of the PACT programme to help combat cancer in developing countries and technical cooperation projects involving application of the SIT to help eradicate mosquito-borne diseases in Africa.

The meeting rose at 12.50 p.m.