

IAEA Board of Governors

Record of the 1192<sup>rd</sup> Meeting  
GOV/OR.1192

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

# Board of Governors

**GOV/OR.1192**

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## Record of the 1192<sup>nd</sup> Meeting

*Held at Headquarters, Vienna, on Tuesday, 11 September 2007, at 10.10 a.m.*

### Contents

Item of the agenda <sup>1</sup>	Paragraphs
4 Nuclear security: measures to protect against nuclear terrorism	1–81
(a) Report by the Director General ( <i>continued</i> )	
(b) International Convention for the Suppression of Acts of Nuclear Terrorism ( <i>continued</i> )	
5 Strengthening the Agency's activities related to nuclear science, technology and applications	82–167

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<sup>1</sup> GOV/2007/49.



## 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. PETRIČ		Chairman (Slovenia)
Mr. CURIA	_____	Argentina
Mr. SHANNON	}	Australia
Mr. CAMERON		Austria
Ms. POLTE		Belarus
Mr. MACKAY		Bolivia
Mr. MOLLINEDO CLAROS		Brazil
Mr. VALLIM GUERREIRO		Canada
Ms. GERVAIS-VIDRICAIRE		Chile
Mr. SKOKNIC		
Mr. SUN Qin	}	China
Mr. GUO Yongheng		
Mr. ARÉVALO YÉPES	}	Colombia
Ms. QUINTERO CORREA		
Mr. MATEK		Croatia
Mr. CODORNIU PUJALS		Cuba
Mr. KHALIL		Egypt
Ms. KAUPPI		Finland
Mr. CARON		France
Mr. GOTTWALD	}	Germany
Mr. SANDTNER		
Ms. BALANOU		Greece
Mr. SHARMA		India
Mr. HISWARA		Indonesia
Mr. AMANO		Japan
Mr. KIM Byung-Ho		Korea, Republic of
Mr. GASHUT		Libyan Arab Jamahiriya
Mr. ZNIBER		Morocco
Mr. OSAISAI		Nigeria
Mr. LUNDBY		Norway
Mr. SHAHBAZ		Pakistan
Mr. BERDENNIKOV	}	Russian Federation
Mr. KARASEV		
Mr. STRITAR		Slovenia
Mr. MINTY		South Africa
Mr. PETTERSSON		Sweden
Mr. OTHMAN		Syrian Arab Republic
Mr. ARTHAKAIVALVATEE		Thailand
Mr. SMITH		United Kingdom of Great Britain and Northern Ireland
Mr. SCHULTE	}	United States of America
Mr. BARRY		

**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. TANIGUCHI	Deputy Director General, Department of Nuclear Safety and Security
Mr. ANING	Secretary of the Board

**Representatives of the following Member States also attended the meeting:**

Albania, Algeria, Angola, Azerbaijan, Belgium, Bulgaria, Côte d'Ivoire, Czech Republic, Dominican Republic, Estonia, Holy See, Iceland, Islamic Republic of Iran, Iraq, Ireland, Israel, Jordan, Kuwait, Latvia, Lebanon, Luxembourg, Malaysia, Malta, Mexico, Namibia, Netherlands, New Zealand, Panama, Philippines, Poland, Portugal, Romania, Slovakia, Spain, Sudan, Switzerland, Tunisia, Ukraine, Uruguay, Yemen, Zimbabwe.

**Abbreviations used in this record:**

CPPNM	Convention on the Physical Protection of Nuclear Material
CRP	coordinated research project
GEF	Global Environment Facility
GRULAC	Latin American and Caribbean Group
INDAG	International Nuclear Desalination Advisory Group
INPRO	International Project on Innovative Nuclear Reactors and Fuel Cycles
ITDB	Illicit Trafficking Database
ITER	International Thermonuclear Experimental Reactor
Joint Division	Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture
LEU	low-enriched uranium
LWR	light-water reactor
NEPAD	New Partnership for Africa's Development
NPT	Treaty on the Non-Proliferation of Nuclear Weapons
NSF	Nuclear Security Fund

**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
SMR	small and medium-sized reactor
UNESCO	United Nations Educational, Scientific and Cultural Organization
WHO	World Health Organization

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



## **4. Nuclear security: measures to protect against nuclear terrorism**

**(a) Report by the Director General (continued)**  
(GOV/2007/43)

**(b) International Convention for the Suppression of Acts of Nuclear Terrorism**  
(continued)  
(GOV/2007/41)

1. Mr. CURIA (Argentina), welcoming the Nuclear Security Report contained in document GOV/2007/43, said that the Secretariat should remain vigilant in order to ensure that all activities in the field of nuclear security were fully in line with the Agency's Statute. More context should be provided in the report to show how the activities supported the objectives of the Statute. Some mention of the link between the Secretariat and the Statute in future reports would help to clarify the Agency's role.
2. In the field of radioactive materials and sources, safety and security went hand in hand and it was of great importance to ensure that nuclear materials were properly recorded, monitored and controlled to protect people from the harmful effects of ionizing radiation. He particularly welcomed the various security-related activities regarding the transport of radioactive material referred to in paragraph 42 of the report, including the publication of the Nuclear Security Series guide *Security of Radioactive Material during Transport*.
3. While his country had taken appropriate measures to protect its fissile materials, it was up to the producers of such materials to exert maximum control over their products, whether they were intended for civil or military purposes, in order to reduce the associated risk and combat illicit trade.
4. With regard to radiological dispersal devices, or dirty bombs, he suggested that the assistance provided under the Agency's programme should include methods for controlling the production of radioactive material and tracing radioisotopes. Argentina was willing to make experts and facilities available and to serve as a centre for regional training activities.
5. Given that the issue of nuclear security was one of increasing importance among the Agency's activities, it was essential not to lose sight of the fundamental concept that the primary responsibility for the physical protection of nuclear materials lay with States. In that context, the references in the report to the establishment of a new international nuclear security framework raised questions regarding the standards and requirements with which States would have to comply as part of that framework, and what the role of the Agency would be.
6. Some statements in the report – especially those presented as a conclusion or an absolute given – needed to be substantiated. For example, the text stated that the threat of terrorism had not diminished, and that Agency efforts were aimed at ensuring the sustainability of nuclear security improvements, and there was a reference to the legacy of limited security that stemmed from the past assumption that nuclear and other radioactive material were self-protecting. Caution should be exercised when dealing with such matters in order to ensure that the language used was commensurate with the scenarios and realities, and to avoid expressions that might jeopardize the peaceful use of nuclear energy, particularly given the resurgence of nuclear-related activities across the world and the increased use of nuclear energy in medicine, industry, agriculture and science.



7. With regard to the advisory documents that were being prepared in the Nuclear Security Series to assist Member States, he noted that they should be produced in close cooperation with Member States and that their core content should be the result of prior consensus. Given the importance of the subject, Member States should first ensure that they properly understood their scope and implications, and it might also be wise to have the Series approved by the Board.

8. In view of the scope of the nuclear security programme and the information sources involved, it would be useful if future reports contained a more detailed overview of the methods used to protect the information.

9. Regarding the priorities and objectives whose inclusion in the report the General Conference had requested, it would be very useful if the Secretariat could provide not just a general formulation, but also specific objectives and quantifiable information about the effectiveness of the plan of activities, so as to allow assessment of the contribution made by its cooperative activities in the field of nuclear security.

10. Mr. SHAHBAZ (Pakistan) welcomed the assistance the Agency had provided to States in their efforts to enhance nuclear security, and the implementation of an international security framework. Progress had been made in several areas, such as the improved preparedness of States to address the risk of malicious acts, the increased legal commitments in the area of physical protection, and the greater awareness of the importance of establishing an adequate legal and technical nuclear security infrastructure. The assistance provided under the Nuclear Security Plan to support States in their efforts to establish, maintain and sustain effective nuclear security regimes had led to improved worldwide security of nuclear and other radioactive material worldwide.

11. Illicit trafficking in nuclear materials was difficult to monitor because of the major financial and human resources required. Thanks to the Agency's capacity building activities, several States now had trained manpower and security equipment and had improved the physical protection of their facilities. His own country was also participating in the ITDB.

12. Pakistan had been a State party to the CPPNM since 2000 and had made a political commitment to applying the Code of Conduct on the Safety and Security of Radioactive Sources. It supported and abided by the recommendations on physical protection contained in document INFCIRC/225/Rev.4 for all its nuclear facilities, including power plants. An elaborate system of security arrangements was in place for the physical protection of nuclear facilities, and the movement of nuclear materials and radioactive sources was monitored adequately to prevent any attempted theft. Pakistan had promulgated the necessary legislation, including lists of control items, for the export of items related to nuclear and biological weapons and their delivery systems.

13. Pakistan appreciated and, indeed, was fully committed to international efforts to combat nuclear terrorism. It had become a partner of the United States-Russian Global Initiative to Combat Nuclear Terrorism in June 2007.

14. Recognizing the specific needs for assistance in the area of nuclear security, the Agency was carrying out activities under cooperation agreements with Member States. Under such a partnership programme for human resource development with the Pakistan Nuclear Regulatory Authority, the Agency was assisting in the establishment of a nuclear security training centre in Islamabad, and it had also made a valuable contribution by developing a set of documents that established fundamental nuclear security principles and recommendations for their implementation. Pakistan looked forward to the Agency developing and utilizing innovative methods of programme delivery through e-learning and the improvement of knowledge networks.

15. Mr. MINTY (South Africa) said that his country shared the international community's concern over nuclear security and the view that the threat of nuclear terrorism was one of the challenges in achieving the common goal of a world free of nuclear weapons. Although the responsibility rested primarily with individual States to control and secure fissile material or other nuclear materials and prevent them from being illegally obtained or used, relevant international instruments could and should play an important role in strengthening national and collective efforts in that regard. South Africa was of the view that the verifiable and irreversible elimination of nuclear weapons was the only way to prevent the use of such weapons.

16. He commended the Agency for its excellent work in carrying out the Nuclear Security Plan, despite financial constraints. South Africa shared the Director General's concern at the fact that the implementation of the Plan had to rely on extrabudgetary resources for its funding. He called upon all donor countries to continue their contributions to the noble goal of ensuring universal protection against nuclear terrorism.

17. Commending also the work that had been done by the ITDB Office, he encouraged Member States to participate actively and share information. The analysis of ITDB data might provide important insights into trafficking routes and methods.

18. The issue of protection against nuclear terrorism was of great significance to South Africa. It might draw on the Agency's expertise and request help with equipment to be put in place as part of the security measures for the soccer world championship in South Africa in 2010.

19. His country continued to be committed to legally binding instruments for combating nuclear terrorism. It had ratified the International Convention for the Suppression of Acts of Nuclear Terrorism and welcomed its entry into force at a time when the threat of nuclear terrorism and the likelihood of States or non-State actors obtaining access to nuclear materials had not abated. It shared international concerns about the increasing threat level and remained committed to fulfilling its obligations as a signatory of the Convention.

20. The South African Minister for Justice and Constitutional Development had reinforced South Africa's support for the global campaign against terrorism when speaking at the 46th session of the Asian-African Legal Consultative Organization in July 2007. He had spoken of the need for States to pool their resources in fighting terrorism on a global scale, and the importance of strengthening the multilateral system in order to prevent powerful States taking unilateral action. The Government of South Africa had adopted legislation to criminalize acts of terrorism, to ensure that terrorists were prosecuted and to prevent South Africa becoming a safe haven for terrorists.

21. Mr. SCHULTE (United States of America) said that nuclear terrorism was a threat to every country represented on the Board. Terrorism reared its ugly head too frequently, and although terrorists were sometimes thwarted, on other occasions they succeeded in committing hateful crimes. It was six years to the day since terrorists had killed thousands of innocent people in the September 2001 attacks on the United States. It was vital to prevent them from killing tens of thousands or more in future and to keep nuclear weapons out of their hands.

22. In July 2006, Presidents Bush and Putin had announced the Global Initiative to Combat Nuclear Terrorism, which aimed to enhance cooperation among partner nations in building capacity to counter the global nuclear terrorism threat. Since that time, his country had worked to increase the number of partner nations, which now stood at more than 60, and it was hoped that the Agency would continue to play an important role in that endeavour.

23. The United States Government welcomed the Director General's Nuclear Security Report 2007 and appreciated the Secretariat's continuing efforts to ensure that the Agency's nuclear safety,

security, safeguards and promotional programmes and their respective activities were well coordinated. The report was a step in the right direction, and it was hoped that future iterations would provide a better picture of what had been achieved and what still remained to be done. The annual report would serve as a tool for forecasting the highest priorities for the nuclear security programme for the coming year, provide the Agency's views on how those priorities could be met, and facilitate increased coordination and cooperation with bilateral nuclear security assistance programmes.

24. In addition to providing direct financial contributions to the NSF, his country had been working with the Agency in a number of areas to reduce the potential for nuclear material, radiation sources and other radioactive materials to fall into the hands of terrorists. For example, the Regional Radiological Security Partnerships assisted Member States in strengthening legal and regulatory controls over nuclear and other radioactive materials within national borders and while in international transit. Also important were efforts to convert research reactors to using LEU rather than HEU fuel. The United States was just completing the conversion of a further reactor in addition to the two reported the previous year, and it planned to have the remaining eleven HEU reactors converted to LEU by 2014.

25. The United States had been working closely with other donor countries and the Agency's Office of Nuclear Security to coordinate bilateral assistance programmes to address the threat of nuclear terrorism. The United States Department of Energy would be sponsoring an international meeting on Securing the Future through an Integrated Nuclear Security and Nonproliferation Strategy in Spiez, Switzerland, in October 2007, as a follow-up to a successful conference in 2005. An integrated strategy for international support of priority projects would be presented at the meeting with a view to expanding partnerships and complementing the Agency's efforts in the area of nuclear security. His country looked forward to working with the Agency and its Member States to accomplish collective goals in that area.

26. The United States had given considerable assistance to the Agency over the past year by providing technical experts as trainers for Agency-sponsored training courses and workshops. From July 2006 to June 2007, his country had contributed 36 instructors for 12 physical protection courses that had collectively included representatives from 37 Member States.

27. He commended the Agency on establishing, in the 2006-2009 Action Plan, the groundwork for synergy between safety, security, safeguards and promotional activities. His country requested the Secretariat to consider the relationship between those activities in a comprehensive manner so as to ensure optimal protection against potential threats to the safe operation of a facility while at the same time ensuring access to peaceful nuclear applications.

28. The Agency was making progress on a standardized process for Member States to review documents in the Nuclear Security Series aimed at assisting States in implementing their obligations. His Government strongly supported the continuing dialogue on the matter, and urged the Secretariat to finalize the process as early as possible.

29. Although the report in document GOV/2007/43 outlined the Agency's role with regard to the International Convention for the Suppression of Acts of Nuclear Terrorism and the implementation of United Nations Security Council resolutions 1540 (2004), 1673 (2006) and 1373 (2001), as well as the Agency's bilateral and multilateral coordination efforts with a range of initiatives and organizations, it would be useful to have additional details on specific activities. The United States continued to view the implementation of Security Council resolution 1540 as a vital element in global and national efforts to prevent the proliferation of weapons of mass destruction, and was prepared to assist other States having difficulty assessing their ability to implement that resolution and close identified gaps. He also commended the Agency's efforts to increase participation in the ITDB.

30. The guidance contained in document INFCIRC/225 on the physical protection of nuclear material had been accepted by Member States as a standard reference. However, the document had last been revised in 1999 (INFCIRC/225/Rev.4) and was now in need of further revision in order to reflect the current environment and make recommendations regarding the amendment to the CPPNM and the objectives of resolution 1540.

31. Mr. OSAISAI (Nigeria) said that his country appreciated the measures being developed within the Agency to establish a stable regime of enhanced nuclear security and to prevent the possible use of nuclear materials for terrorist activities. As part of its contribution to that effort, Nigeria had hosted a conference on the physical protection of nuclear materials and radioactive sources earlier in the year for Member States in the Africa region which had focused on capacity building.

32. The intensified use of radiation sources in the oil industry in Nigeria, the widespread application of nuclear medicine and radiotherapy facilities, and waste generated from the operation of a small research reactor had created a need for the development and operation of appropriate radioactive waste management facilities in the country. Currently, all low- and medium-level radioactive wastes were placed in temporary storage, but a low- and medium-level radioactive waste management facility was being developed.

33. Nigeria condemned nuclear terrorism in all its forms, and was fully committed to strengthening existing legally binding instruments and implementing all appropriate measures in that regard. The issue was one that deserved to be given high priority.

34. Ms. HASNAH MOHAMED (Malaysia)\*, after associating herself with the comments made by the Governor from South Africa, said that her country continued to be committed to the non-proliferation of nuclear weapons and other weapons of mass destruction as a step towards complete nuclear disarmament.

35. Malaysia wholly condemned all acts of terrorism, including nuclear terrorism, regardless of the motivation of the perpetrators. For that reason, Malaysia had joined other States in signing the International Convention on the Suppression of Acts of Nuclear Terrorism in New York in September 2005.

36. It was appropriate that nuclear security should be high on the global community's agenda, particularly in view of the serious threat of mass transnational terrorism and of nuclear and radiological terrorism. Her country was grateful to the Agency for its commendable efforts in implementing the Nuclear Security Plan, despite financial constraints, and it appreciated the extrabudgetary contributions made by donor States towards such efforts.

37. Malaysia attached great importance to combating all forms of terrorism, and had extensive links with counterterrorist counterparts in the South East Asia region. In order to combat illicit trafficking in nuclear material, Malaysia was implementing a national environmental and radiological-sources monitoring system and was in the process of installing monitors at all points of entry and exit. Malaysia was also holding discussions with the Secretariat in preparation for hosting the Agency's regional training course on nuclear security later in the year.

38. With regard to the report contained in document GOV/2007/43, she said it was important to exercise caution when linking the increased interest in nuclear energy with what were perceived as emerging nuclear security threats.

39. Mr. TANIGUCHI (Deputy Director General for Nuclear Safety and Security) said that he appreciated the valuable and positive comments made on documents GOV/2007/43 and 41.

40. With regard to responsibility for nuclear security, it was clearly a national responsibility. The Agency would continue to assist States in their efforts to improve nuclear security, either by means of direct support or through the guidance and recommendations provided in the Nuclear Security Series, which were developed in close consultation with Member States. The Agency would continue to make appropriate improvements to the guidance in order to reflect recent developments and the feedback that had been received.

41. Mention had been made of the Agency's functions in implementing the International Convention for the Suppression of Acts of Nuclear Terrorism. While some Member States had welcomed those functions, others had expressed concern regarding the funding required to fulfil them. Although the additional functions for the Agency under the Convention and the amended CPPNM were included in the preamble of the Nuclear Security Plan, neither the Convention nor the amended CPPNM had been in force when the Plan had been drawn up in 2005. The additional functions envisaged for the Agency in order to ensure the effective implementation of those legal instruments would require significant and sustainable funding of the NSF beyond the current level. The issue would be considered again the following year, in the context of the preparations for the Nuclear Security Plan for 2010-2014 and the forecast of resources required until 2020.

42. He welcomed the appreciative comments made about the value of the education and training provided by the Agency. Efforts would continue in that area, and there would be greater emphasis on establishing nuclear security support centres that would also support regional training based on standardized training materials, in support of implementation of the Nuclear Security Series. He thanked those Member States which had offered to host such centres.

43. Regarding the synergies between safety, security and safeguards, the Agency would continue to build on them, paying close attention to the various demands placed on users or operators. The Nuclear Security Plan for 2006-2009 took account of existing arrangements within the Secretariat for managing the synergies between safety, security and safeguards, but the issue was a complex one which would be discussed further by the Secretariat, Member States and the Advisory Group on Nuclear Security.

44. Several delegations had mentioned the importance of prioritization and coordination. Paragraph 86 of the Nuclear Security Report summarized the priorities for the coming year, and a mechanism had been established for prioritizing assistance to States. The Agency was endeavouring to coordinate its efforts with States, bilateral programmes, international organizations and multilateral initiatives and had adopted several measures to facilitate such interaction. However, the effectiveness of its efforts depended on the provision of adequate and useful information by donors and organizations. Given the limited resources available, continued coordination would facilitate and maximize the impact of the activities of the Agency and others. The Agency would continue to take an active part in international initiatives to strengthen nuclear security.

45. With regard to the evaluation of achievements, steps had been taken towards systematic evaluation, in addition to existing mechanisms for programme evaluation. One example was a training survey that had been carried out. Although no report had yet been produced on the results, the initial evaluation indicated that approximately 89% of respondents applied their new skills in their jobs. There could therefore be no doubt that the training they received was valuable in terms of improving security, and in future years such evaluations would be performed more systematically.

46. On the issue of transparency and confidentiality, a request had been made that supplementary, more detailed information be supplied to the Board. Although a certain amount of additional information could be found on the Agency's website, it was important to protect the confidentiality of sensitive information. The Agency had established a confidentiality regime and had set down

boundaries and conditions for information sharing. It was necessary to balance transparency with confidentiality and to ensure that no information was provided that might undermine security. However, the comments had been noted and the Secretariat would look at ways of making the report more transparent and useful.

47. The CHAIRMAN, summing up, said that the Board had welcomed the annual report by the Director General on measures in the area of nuclear security, which provided a review of activities and achievements over the past year and outlined the priorities for the nuclear security programme 2006-2009. Some suggestions had been made for improvements to the structure and content of the report which would be appropriately considered.

48. Several members had commended the approach taken by the Agency in implementing its activities, the results obtained and also the approach of seeking synergies and coordination among all Agency Departments.

49. Several members had encouraged the Secretariat to continue with the prioritization and streamlining of nuclear security-related activities, to accelerate project planning and implementation and to ensure the effective and efficient use of resources.

50. Some members had stressed the importance and usefulness of the ITDB.

51. Some members had agreed with the view that the primary responsibility for nuclear security measures and activities rested with Member States and that the role of the Agency was to assist to that end.

52. Several members had welcomed the Agency's Integrated Nuclear Security Support Plans, which would help individual States to plan an integrated long-term support programme, increase ownership and enhance donor coordination. They had encouraged the Agency to continue its efforts to make those Plans more user-friendly and had called upon all Member States needing assistance to make full use of such Plans.

53. Several members had underlined the importance of establishing nuclear security guidance and had taken note of the wide range of guidance documents in preparation. Some had stated that priority should be given to the development of the Nuclear Security Fundamentals, as constituting the basis for the more detailed Implementing Guides.

54. Several members had also noted the other global nuclear security initiatives involving the Agency. Some members had emphasized the importance of increased international coordination and assistance to strengthen global protection against nuclear terrorism and had underlined the Agency's key role in that regard, and also in helping States to develop and implement national nuclear security frameworks.

55. Support had been expressed for the training activities provided by the Agency to Member States in the field of nuclear security, including the Secretariat's intention to establish regional training centres.

56. Strong support had been expressed for the efforts to strengthen relevant international instruments, such as the International Convention for the Suppression of Acts of Nuclear Terrorism, the CPPNM and the Code of Conduct on the Safety and Security of Radioactive Sources. The hope had been expressed that the entry into force of the amendment to the CPPNM would be achieved as soon as possible.

57. A view had been expressed in support of efforts to minimize the use of HEU in the civilian nuclear sector and to facilitate conversion to the use of LEU.

58. Appreciation had been expressed for contributions, both financial and in kind, made to the NSF and for the high implementation rate of projects. Others had stressed the voluntary nature of the contributions to nuclear security activities.

59. Some members had expressed concern about specific conditions attached by States providing financial contributions to the NSF.

60. He took it that, with reference to item 4(a) of the agenda, the Board wished to:

- (a) take note of the Nuclear Security Report 2007 on measures to protect against nuclear terrorism as contained in document GOV/2007/43;
- (b) transmit the report to the General Conference with a recommendation that States contribute on a voluntary basis to the NSF, which was necessary for the continuation of the Agency's activities related to the measures to protect against nuclear terrorism;
- (c) call upon States to ratify as soon as possible the amendment to the CPPNM and promote its early entry into force; implement the legally binding and non-binding international nuclear security-related instruments; and invite States to make full use of the assistance available for that purpose through participation in the Agency's nuclear security programme; and
- (d) invite all States to participate in the ITDB programme on a voluntary basis.

61. It was so decided.

62. The CHAIRMAN, referring to item 4(b) of the agenda, said that if there were no objections he would take it that the Board wished to approve the functions specifically assigned to the Agency under the International Convention for the Suppression of Acts of Nuclear Terrorism, which were set out in paragraphs 3(g) and (h) of document GOV/2007/41, and to authorize the Director General to implement them, subject to the availability of resources.

63. It was so decided.

64. Mr. MINTY (South Africa) said that he wished to provide the Board with an update concerning the illicit international nuclear weapons proliferation network. It would be recalled that the declaration of 19 December 2003 by the Libyan Arab Jamahiriya that it had been involved in nuclear weapons activities had led to the exposure of the so-called A.Q. Khan network, which apparently operated in more than 30 countries and comprised several entities and individuals of different nationalities. The delegation of South Africa had reported to the Board in September 2004<sup>2</sup> that an investigation had been undertaken with regard to contravention of South Africa's Non-Proliferation of Weapons of Mass Destruction Act, 1993, and its Nuclear Energy Act, 1999. He had informed the Board that those investigations were taking place in the context of the so-called A.Q. Khan network, as well as of information obtained following Libya's announcement of the abandonment of its nuclear weapons programme.

65. The Government of South Africa shared the view of the Director General and others that the illicit network presented a serious challenge to the NPT, and it was for that reason that, in cooperation with a few other countries, as well as the Agency, it had undertaken a thorough and urgent investigation into the contravention of relevant South African non-proliferation legislation with the

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<sup>2</sup> See GOV/OR.1106, para. 92.

aim of prosecuting those involved in the illicit activities. It was a further demonstration of South Africa's commitment to the NPT's non-proliferation provisions.

66. The allegations that had been investigated had initially related specifically to the import and export of a controlled flow-forming machine, as well as to the production and attempted export of certain components associated with a centrifuge enrichment plant without the necessary permits and authorization. An intensive investigation had been instituted into the possible involvement of two South African corporate entities — Krisch Engineering Company and Tradefin Engineering CC — in the network's procurement activities for Libya. That investigation had led to a search being carried out at the premises of Tradefin Engineering on 1 September 2004, during which feed systems/product and tails withdrawal systems and machine header piping systems, as identified in Part 1, Annex B, sections 5.2.1 and 5.2.2, respectively, of the Nuclear Suppliers Group Guidelines for Nuclear Transfers<sup>3</sup>, had been found, as well as documentation relating to the import and export of a flow-forming machine, classified as "nuclear-related dual-use equipment", as described in document INFCIRC/254/Rev.7/Part 2. Both the flow-forming machine and the systems had formed part of Libya's undeclared nuclear activities. One of the directors of Tradefin Engineering, who had been responsible for the manufacture of the systems, Mr. J.A.M. Meyer, had been arrested. The charges against him had been withdrawn after he revealed that he had been acting on behalf of Krisch Engineering when he had taken part in the activities in question. He had been given the status of a cooperating, complicit witness, and on the strength of his evidence the managing and design directors of Krisch Engineering, a German citizen, Gerhard Wisser, and a Swiss citizen, Daniel Geiges, had been arrested and charged with contravening South Africa's non-proliferation legislation. At a preliminary hearing after their arrest, both men had declared their intention to plead not guilty to all the charges and had indicated that the systems in question related to a water purification plant. In order to counter that argument, the South African authorities had embarked upon an extremely thorough and expensive investigation during the course of which they had received assistance from a few countries. Cooperation by the authorities of affected countries had, unfortunately, been uneven; while some had cooperated fully, others ideally placed to provide evidence had either provided limited assistance or declined to provide any at all.

67. Upon seizure of the systems and documentation, the Government of South Africa had immediately reported the investigation to the IAEA, which had provided continuous and valuable assistance during it. The investigation had revealed that during the period 1986–1995 the accused had supplied controlled nuclear equipment to Pakistan. Those activities by the illicit network had later led to the attempted supply to Libya of controlled items in contravention of South Africa's non-proliferation controls. It was important to note in that context that the former South African apartheid regime had joined the NPT only in 1991, during the period of transition, and the relevant legislation and regulations had been promulgated only in 1994, the year when the first democratic Government had come to power in South Africa.

68. As a result of the investigation, the South African National Prosecuting Authority had indicted the accused on six charges related to the Libyan activities and four charges related to Pakistan. The indictment had alleged that the accused had acted in concert with other members of the network outside the country. When the National Prosecuting Authority was ready to proceed with the prosecution in early 2006, the two accused had sought postponement for various reasons. In late 2006, one of the accused, Daniel Geiges, had been diagnosed as terminally ill with cancer, which had resulted in him not being able to attend certain trial hearings.

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<sup>3</sup> See INFCIRC/254/Rev.8/Part 1.



69. On 4 September 2007, the other accused, Gerhard Wisser, had entered into a plea and sentence agreement with the National Prosecuting Authority under the terms of which he had been convicted on seven counts relating to his activities with both Libya and Pakistan and sentenced to three years' correctional supervision as well as a total of 18 years' imprisonment, suspended for five years on conditions which, among other things, required him to cooperate fully with the authorities as far as further investigations into the network's activities were concerned. A confiscatory order had been made in respect of his proceeds of crime to the amount of 2.8 million euros and 6 million rand.

70. The case against Daniel Geiges had been separated and postponed until 21 September 2007 pending medical reports concerning his health status and ability to stand trial.

71. Gerhard Wisser, in his plea of guilty, had confirmed that his crimes had in one way or another contributed to the illicit network's activities, and had admitted that he had acted in concert with other members of the network outside the country. His plea of guilty had been tendered only after he had been supplied with conclusive evidence which destroyed his initial defence argument that he had been involved only in water purification activities.

72. South Africa was highly appreciative of the Agency's major contribution and assistance in bringing the case against Gerhard Wisser to a close. South Africa also wished to recognize the cooperation it had received from all Governments involved in the investigation. What was now required from all countries affected by the illicit network was enhanced efforts by the respective authorities, in close cooperation with the Agency. It was only through resolute action that all the major actors involved could be successfully prosecuted, leading to the complete elimination of that global illicit network.

73. As one of the first successful cases against those involved in the so-called A.Q. Khan network, South Africa's experience had illustrated the value of the IAEA and of effective information-sharing. South Africa believed that that type of cooperation would contribute to the prevention, combating and eradication of such illicit activities.

74. In conclusion, he requested that his statement, together with extracts from the terms of agreement related to the plea and sentence agreement of Gerhard Wisser, be circulated as an official document of the Agency.<sup>4</sup>

75. Mr. SCHULTE (United States of America) commended the Government of South Africa for the conviction of a key participant in the A.Q. Khan network. He described it as a landmark case that was a direct result of that Government's determination and perseverance in pursuing the investigation and prosecution. He commended the Agency for its support and congratulated the Governor from South Africa on his personal role.

76. The technology made available by the A.Q. Khan network had altered the non-proliferation landscape. Countries had to remain vigilant and work together and with the Agency to ensure that similar procurement networks did not contribute to illicit nuclear weapons programmes in the future; that included strengthening the Agency's evaluative capabilities and provision to the Agency of relevant export- and import-related information on a voluntary basis. The A.Q. Khan network had delivered nuclear technology to States of proliferation concern such as the Democratic People's Republic of Korea and the Islamic Republic of Iran, and the international community must be mindful that future networks might attempt to deliver nuclear materials and know-how not only to States but also to terrorist groups.

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<sup>4</sup> GOV/INF/2007/20.

77. Mr. SHAHBAZ (Pakistan) said that the prosecution and conviction of a member of the illicit network in South Africa was a welcome development which vindicated his country's stated position that the so-called A.Q. Khan network was actually a network whose key members belonged to more than two dozen countries. It was not appropriate to downplay the extent and scope of the nuclear black market by focusing exclusively on the activities of only one individual in one country. The IAEA was on record as having informed the international community that individuals and entities from more than 20 countries spread across four continents had been involved in the illicit activities. It was in the collective interest to prevent such networks from functioning, and Pakistan had done and was doing what was required of it. Pakistan expected and called upon other countries whose nationals were involved in proliferation activities to do likewise.

78. Following disclosures about the involvement of certain Pakistanis in the illicit network engaged in clandestine nuclear proliferation activities, the Government of Pakistan had thoroughly investigated the matter and shared its findings with the Agency and relevant countries. Pakistan's investigations had been the key to exposing the network's international associates. Pakistan continued to cooperate with the Agency on the issue. Those Pakistanis involved in the network had been placed under strict restrictions which continued to date. Pakistan's investigations had substantiated that no government, past or present, and no government institutions had been involved in the authorization of illicit transfers of sensitive equipment and technology.

79. A series of effective measures had been taken by the Government of Pakistan to prevent such occurrences in the future. In addition to the Chemical Weapons Convention Implementation Ordinance of 2000, a comprehensive Export Control Act had been in place since 2004 to ensure control over materials, goods, technologies and equipment related to nuclear and biological weapons and their delivery systems. Pursuant to that Act, Pakistan had also established an Oversight Board to monitor the implementation of the export controls over the items notified in the national control lists of goods, technologies, materials and equipment related to nuclear and biological weapons and their delivery systems. Those control lists encompassed the lists and scope of export controls maintained by the Nuclear Suppliers Group, the Australia Group, which related to biological agents and toxins, and the Missile Technology Control Regime. The classification system was based on the European Union's integrated list, which constituted the latest international standard in that regard.

80. International export control arrangements had an important role in curbing proliferation, but the restricted regimes or arrangements put in place by the selected partners to curb proliferation also faced a paradox. Recent incidents of proliferation, involving individuals or entities from more than two dozen countries, including a number belonging to the member States of those regimes, showed that there was ongoing competition between legal and moral obligations to control nuclear technology, on the one hand, and the market demands for nuclear materials and technology, mostly for peaceful purposes, on the other. The conflict arose when, owing to the dual nature of the technology, the non-proliferation regime was applied selectively by individual States, and not on a legal basis but mainly out of political considerations. Consequently, in finding solutions to addressing the problem of illicit supply networks, it was necessary to take into account the need to ensure that the non-proliferation arrangements, while effectively preventing the diversion of sensitive technologies to wrong hands, did not hamper international cooperation in peaceful uses of dual-use technologies.

81. In conclusion, he requested that his statement be circulated as an official document of the Board.<sup>5</sup>

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<sup>5</sup> GOV/INF/2007/21.

## **5. Strengthening the Agency's activities related to nuclear science, technology and applications** (GOV/2007/26 and Corr.1)

82. The CHAIRMAN said that the document before the Board, prepared in response to General Conference resolutions GC(49)/RES/12 and GC(50)/RES/13, contained six annexes providing progress reports on the use of isotope hydrology for water resources management, the Programme of Action for Cancer Therapy (PACT), support to the African Union's Pan African Tsetse and Trypanosomosis Eradication Campaign (PATTEC), nuclear power applications, Agency activities in the development of innovative nuclear technology, and producing potable water economically using small and medium-sized nuclear reactors.

83. Mr. SOKOLOV (Deputy Director General for Nuclear Energy), introducing the document in respect of the activities relevant to nuclear power and its non-power applications, innovative nuclear technology, and the production of potable water using SMRs, said that the report on innovative nuclear technology covered the Agency-wide International Project on Innovative Nuclear Reactors and Fuel Cycles (INPRO) and the many other Agency activities on innovation. He noted that of the 30 countries wishing to participate in INPRO, seven did not currently have nuclear power plants. Of the innovation activities outside INPRO, he highlighted natural circulation in water cooled reactors, activities in the area of supercritical reactors being coordinated with the Generation IV International Forum and the OECD/NEA, and an international conference in Japan in April 2007 on non-electric applications of nuclear power. The report on producing potable water economically using SMRs reviewed developments around the world and summarized Agency activities in the past two years. Turning to nuclear power applications, he noted that since the report's publication the International Nuclear Library Network had gained a ninth partnering library, namely the China Nuclear Information Centre.

84. Finally, with regard to the report that had been requested in resolution GC(50)/RES/13 on innovative means of financing nuclear power as an option in meeting the energy needs of interested developing countries, he said that while it was an important topic and a number of steps had already been taken towards preparing such a report and further steps were planned, the Secretariat considered that more time was needed, both to engage additional expertise from outside the Agency and to ensure in-house consensus about the final document to be presented to the Board and General Conference.

85. Mr. BURKART (Deputy Director General for Nuclear Applications), introducing the document in relation to the use of isotope hydrology for water resources management, PACT and support to PATTEC, said that throughout the report of activities in the first of the three areas, reference was made to collaboration and partnerships with many United Nations organizations and others. Through the Agency's work, isotope hydrology was increasingly being recognized by all participating organizations as one of the key technologies for managing the world's limited water supplies, and in many cases was the tool of choice for sustainable management of often scarce water resources.

86. The report on PACT presented some significant progress and achievements in the past year, as well as giving a look ahead to what was needed to continue its momentum in 2008 and beyond.

87. Support to PATTEC continued at a high level: there had been a 40% increase in sterile fly production since the first test releases of sterile male tsetse flies from the mass rearing facility at Kaliti, Ethiopia, in May 2007, and experience from that project would be to the benefit of all tsetse-infected Member States. The support of the African Development Bank had been vital to the national efforts of the six Member States most affected.

88. Mr. ELDIN ELAMIN (Sudan)\*, speaking on behalf of the Group of 77 and China, thanked the Agency for the continued progress in the areas of nuclear applications in isotope hydrology, PACT, PATTEC, innovative nuclear technology, nuclear power infrastructure development and nuclear knowledge management, all of which were areas crucially linked to human needs in the developing countries. The Group encouraged the Agency to continue to intensify its efforts in supporting them, and looked forward to receiving the report on innovative ways of financing nuclear power, with particular emphasis on developing countries, in the near future.

89. The Group continued to consider that increased participation by national and regional resource centres of the developing countries, with strong IAEA support through training and education, would strengthen all the activities concerned, and underlined the importance of increased technology transfer to developing countries and greater interaction of scientists among all Member States. In that regard, the Group would recommend strengthening the CRP mechanism and increasing its synergy with the technical cooperation programme.

90. The Group noted with satisfaction that project RAS/8/092, Investigating Environment and Water Resources in Geothermal Areas (RCA), had strengthened the capacities of a number of countries in carrying out inter-laboratory comparison exercises and stable isotope measurements of water. The Group also welcomed the CRP entitled "Geostatistical analysis of spatial isotope variability to map the sources of water for hydrology", the provision by the IAEA's water resources programme of technical expertise to the GEF Scientific and Technical Advisory Panel for the theme of managing aquifer recharge, and the initiation of several GEF-funded projects related to the adaptation of water resources management practices to potential impacts of climate change. The Group noted with satisfaction that a number of regional training programmes had been successfully conducted in water resources management in an effort towards capacity building in Member States, and thanked the Secretariat for the information disseminating tools that had been developed and distributed.

91. The Group believed that the timely implementation of PACT would have an impact on the health and development of all regions and promote the other statutory activities of the Agency. The Group noted the IAEA's policy of seeking to develop an Agency-wide strategy for the implementation of PACT, and welcomed its inclusion as part of the Human Health Programme under Major Programme 2, as well as the provision included in the Regular Budget to cover a portion of its required funding for management and essential support. The Group commended the PACT Programme Office for the progress made in the establishment of public-private partnerships with Member States, other international organizations and private entities. The Group urged the Programme Office to continue to foster the development and deployment of cost-effective, reliable systems for radiation treatment of cancer patients through such partnerships. The Group welcomed the recognition being accorded to PACT by other international organizations, particularly the WHO, and supported the collaboration between the PACT Programme Office and WHO Regional Offices. The Group recognized the importance of PACT missions as a comprehensive assessment tool and their usefulness for the planning of integrated cancer control programmes, and supported their continued use.

92. The Group welcomed the IAEA Nobel Cancer and Nutrition Fund special events held in Cape Town, Bangkok and Buenos Aires, which had generated much public awareness about the global cancer burden in low- and middle-income countries, and drew attention to the declarations signed by the participants in those events. It was to be hoped that the call for greater support by the international community and donors to mitigate the growing cancer burden effectively would have the desired results. The coverage given to PACT by local and international media had helped raise awareness of the global cancer problem, the Agency's work in fighting cancer and the specific role of PACT.

93. The Forum on Cancer Control in Africa, which had enjoyed wide participation, had resulted in the London Declaration on Cancer Control in Africa, calling on interested national governments,

institutions, partners, international organizations and civil society to work together to enable the delivery of comprehensive cancer care in Africa, and the Group hoped the Declaration would be the first step in building wide support for PACT's plan for Africa. It appreciated the financial and other contributions and pledges made to PACT and encouraged more Member States to contribute. The Group would continue to table resolutions on PACT at sessions of the General Conference to ensure that concrete and sustainable action was taken on cancer, and it urged the Director General to continue to mobilize support and resources for the implementation of PACT as an Agency priority.

94. The Group welcomed the Agency's efforts to assist African Member States in agricultural development by combating tsetse flies and trypanosomosis, a major transboundary challenge for Africa and one of the greatest constraints to its socio-economic development. Trypanosomosis claimed tens of thousands of human lives and millions of livestock every year and threatened over 60 million people in 37 countries, most of which were Agency Member States. The Group acknowledged the Agency's significant contribution to the African Union's PATTEC and NEPAD programmes and to efforts to achieve the Millennium Development Goals.

95. The Group appreciated the Agency's support to Member States in their efforts to build capacity and further develop methods for applying the SIT to create and expand tsetse-free zones in Africa, and also the contributions made by some Member States and United Nations specialized agencies. It welcomed the donors' conference organized in February 2007 in Addis Ababa by PATTEC and the African Development Bank to generate further loans and grants so that more countries could embark on subregional tsetse control programmes, and called on Member States to provide additional technical, financial and material support to African States for their efforts to create tsetse-free zones, for which purpose it also requested the Secretariat to continue to support R&D and technology transfer to African Member States.

96. There had been a substantial increase in the number of requests for assistance in national energy studies exploring the potential of nuclear energy, and the Group encouraged Agency efforts in that direction, welcoming the Secretariat's paper on Considerations to Launch a Nuclear Power Programme (GOV/INF/2007/2) and several related technical documents, including the guide *Milestones in the Development of a National Infrastructure for Nuclear Power*. A workshop on that subject was scheduled for November 2007 and initial arrangements had been made for a second ministerial conference on nuclear power to be held in China in 2009.

97. In that connection, the Group supported collaboration between the Agency and other international organizations on plant life management for long-term operation.

98. In view of the increasing interest in uranium exploration, mining and production and the further expansion of such activities envisaged in the 2008–2009 biennium, the Group requested the Secretariat to keep Member States informed of developments.

99. Several technical documents had been published on spent fuel storage and long-term behaviour, and the Group supported the education and training activities planned in that regard. It also welcomed the Agency's assessment of the use of borehole disposal of disused sealed sources by countries generating small volumes of radioactive waste and having no other disposal options.

100. Conscious of the need to train a new generation of nuclear scientists and engineers, the Group endorsed the Agency's activities in nuclear knowledge management to maintain core knowledge, particularly the International Conference on Knowledge Management in Nuclear Facilities held in June 2007, and welcomed the growth in membership of the International Nuclear Library Network.

101. The Group of 77 and China had always supported the Agency's activities under the INPRO programme and welcomed the growth in the number of members, including developing countries. The

Group looked forward to the publication of a user manual later in 2007, and to the results of assessments of INPRO methodology in various Member States aimed at identifying which innovative nuclear systems could best contribute to sustainable development in particular conditions. The Group welcomed both the development of common user criteria and actions relating to the development and deployment of nuclear power plants in developing countries. Although INPRO had already been upgraded to subprogramme status, the Group considered that, given its importance and in order to expedite the successful implementation of its Phase 2 activities, it should be funded principally from the Regular Budget.

102. The Group supported the Agency's activities to develop advanced nuclear reactor designs which were evolutionary and featured passive safety systems, improved economics and a very high level of safety resulting from reduced design complexity, and requested that Member States be kept informed of progress. It endorsed the Agency's efforts to support education and training on advanced and innovative fuel technology development, including the factbook primarily aimed at the new generation of scientists and engineers which was in preparation.

103. The Group supported the Agency's activities related to SMRs. The Agency should facilitate technical, legal, regulatory and financial assistance to interested developing countries, in particular those which had small electrical grids and which were planning to introduce nuclear power as part of their energy mix. The Group welcomed the development of a detailed plan of action on competitiveness considerations for SMRs, including a country-independent model for their assessment, and supported all Agency activities in the area of non-power applications of nuclear energy. It appreciated the efforts of INDAG members to review the Agency's progress and planned activities in the area of nuclear desalination. Noting the worldwide collaborative projects among Member States involving technical and economic feasibility studies of both nuclear co-generation and nuclear desalination, the Group requested the Secretariat to keep Member States informed of developments and potentially viable systems.

104. Mr. QUIÑONES (Dominican Republic)\*, speaking on behalf of GRULAC, acknowledged the Agency's efforts to strengthen nuclear science and technology activities and promote them in support of national development programmes and priorities in his region. GRULAC attached great importance to the peaceful uses of nuclear technologies and their contribution to achieving the Millennium Development Goals. He highlighted those Agency activities which sought to increase the use of isotopic and nuclear techniques in water resource management, assess the impact of climate change on water resources and consolidate human resources in the area of isotope hydrology.

105. He welcomed the Agency's support in seeking solutions to the problem of scarcity of drinking water through increased cooperation with national and international organizations. The Agency had participated in the 4th World Water Forum and Ministerial Conference held in Mexico City in March 2006, which had appealed for firmer commitments and more action to achieve targets on ensuring drinking water supply. The Agency was providing important support for training and human resources development in the area of isotope hydrology. A joint IAEA–UNESCO training programme for Latin America and the Caribbean had been established at the University of Montevideo and regional training programmes had been carried out in Central America covering, among other things, field techniques, data interpretation and the application of isotope techniques.

106. The support given to PACT by Member States and the Secretariat was particularly welcome. PACT was a programme addressing a sensitive human health issue and should enjoy the support of all governments. The 50th regular session of the General Conference had considered PACT to be one of the Agency's priorities, and so efforts must be redoubled to mobilize resources for the implementation of a global approach with strategic priorities for all aspects of action against cancer. GRULAC

therefore welcomed the inclusion of PACT as a component of the Agency's Human Health Programme and the plans to finance it from the Regular Budget.

107. GRULAC noted the activities relating to nuclear power and innovative nuclear technologies, including the use of SMRs to produce drinking water, and the Agency's response to the growing interest of Member States in the use of atomic energy for electricity generation. It appreciated the various initiatives to assist Member States considering the nuclear power option, including information documents, coordinated research projects, training seminars and workshops, and technical cooperation projects. In particular, GRULAC welcomed the publication of the paper on Considerations to Launch a Nuclear Power Programme and of various technical documents, and stressed the need for the Agency to continue holding seminars and workshops on technical matters, if possible at regional level. With regard to the Agency's activities relating to long-term reactor operation, uranium exploration, final disposal of waste, effective use of reactors, conversion of reactors to LEU, and development of technologies for radioactive source disposal, GRULAC attached great importance to the transfer of such technologies to Member States through the technical cooperation programme.

108. GRULAC welcomed the progress made in developing innovative reactor designs and reactor technologies of particular interest to developing countries. The INPRO project had entered its second phase and was not only working on methodologies for evaluating innovative nuclear energy systems and identifying those that could best contribute to sustainable development under the specific conditions of particular countries or regions, but also preparing common user criteria for developing and deploying nuclear power plants in developing countries, covering institutional factors, infrastructure, technology and design. GRULAC also appreciated the Agency's work on SMRs and their non-power applications, particularly seawater desalination, in view of the attraction of designing reactors to combine electricity generation with drinking water production. It therefore welcomed the Agency's support for Member States' R&D activities in that area, as well as the events and workshops held and the feasibility studies carried out under the technical cooperation programme.

109. Ms. GERVAIS-VIDRICAIRE (Canada) said that the peaceful uses of nuclear energy covered every aspect of modern life, providing abundant and reliable power for households and industry, helping with the diagnosis and treatment of diseases, and even serving to produce potable water. However, the intended audience for the report contained in document GOV/2007/26 was not clearly defined and the report's messages were not as targeted as they could be. The report on nuclear science, technology and applications should be directed towards senior decision-makers and policy advisers and should be readily accessible, concise and easy to read, offering a comprehensive global perspective on nuclear technologies for energy and non-energy applications. It should also refer to the main activities and contributions of the Agency, as the annual Nuclear Safety Review did. The relevant parts of that publication should be used as a model for the present report so as to make it a high-quality, independent document.

110. The Agency had seen a marked rise in the number of Member States, particularly developing countries, requesting assistance on matters relating to the possible introduction of nuclear power. Canada welcomed the Agency's work in that regard. It had actively supported the December 2006 workshop on necessary infrastructure and various follow-up activities. Knowledge management was another essential area in which the Agency continued to play a central role, and she welcomed the fact that Canada had had the opportunity to chair the International Conference on Knowledge Management in Nuclear Facilities in June 2007.

111. She was pleased to note that the Agency was to give greater priority to uranium-related activities in the 2008–2009 biennium, including a proposed symposium on uranium prospecting, mining and production and future uranium availability. In addition, the Agency should keep up the

momentum of its activities on pressurized heavy water reactor technology. Nuclear energy could contribute to responding to growing concerns about climate change and she welcomed the fact that the report described the Agency's active role in that regard.

112. In support of PACT, which had made good progress, her country's Ministry of Health had contributed 150 000 Canadian dollars early in 2007, and she expressed satisfaction that MDS Nordion was one of PACT's key partner organizations, continuing to provide teletherapy equipment for the programme.

113. With regard to innovative nuclear technologies, she welcomed the continued collaboration between INPRO and other projects, such as the Generation IV International Forum. Canada maintained its interest in R&D on advanced nuclear reactors and welcomed the detailed report presented.

114. Mr. AMANO (Japan), reaffirming his country's support for the Agency's important role in the peaceful use of nuclear technology for power and non-power applications, underlined the Agency's positive contribution to sustainable development through various activities, such as PACT and SIT. PACT, in particular, was of prime importance. Japan had made an extrabudgetary contribution to the programme and would be sending an expert to the PACT Programme Office to assist with it.

115. Establishing partnerships with other international organizations and national and regional stakeholders was essential to achieving the best possible socio-economic results, and he encouraged the Agency to continue its efforts to build strategic partnerships.

116. Nuclear power was capable of meeting the world's rapidly expanding energy demands and had an important role to play in sustainable development. He accordingly supported the Agency's efforts to assist States considering the introduction of nuclear power. In recognition of the importance of INPRO's activities in that field, Japan had decided to provide a cost-free expert to INPRO.

117. In introducing nuclear power, as all Member States should recognize, safeguards, safety and security were of the utmost importance. Japan was examining ways to assist in the establishment of infrastructures supporting those aspects in countries planning to introduce nuclear power. It remained committed to promoting the peaceful use of nuclear energy in line with efforts to address global environmental problems, and to achieving sustainable development through the power and non-power applications of nuclear energy taking the safeguards, safety and security aspects into account.

118. Mr. MINTY (South Africa), speaking on behalf of the African Group, expressed appreciation for the Agency's activities to support and complement R&D and technology transfer to African Member States. The Group attached high priority to the development of the peaceful applications of nuclear technology, which had a critical role to play in the socio-economic uplift of developing countries. It also appreciated the Agency's programmes relating to isotope hydrology, PACT, PATTEC, innovative nuclear technology, nuclear power infrastructure development and nuclear knowledge management, all of which played a crucial role with regard to NEPAD's programmes and the Millennium Development Goals.

119. The Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture in Vienna performed sterling work, and its programmes in the areas of nuclear research on soil and water management, crop nutrition, plant breeding and genetics, animal production and health, insect pest control, and food and environmental protection were vital in addressing the prevalent socio-economic conditions in developing countries. The Joint Division played an important role in developing the SIT programme and the Global Rinderpest Eradication Programme and was currently responsible for the technical management of over 140 national and regional technical cooperation projects, with an annual expenditure of over €20 million for the provision of equipment, expert advice and training to



developing countries. The Group urged the Secretariat to continue supporting those important activities and called on all Member States to make voluntary contributions to the Joint Division's programmes.

120. The African Group welcomed the progress made in using nuclear applications in areas crucial to human needs in developing countries, in particular the use of the SIT for the control or eradication of malaria-transmitting mosquitoes. Important activities had been carried out in Sudan, Reunion and the Agency's laboratories at Seibersdorf, including research on mosquito population genetics aimed at assessing the prospects for an SIT feasibility study and understanding mosquito population distribution and isolation as a basis for better strategic planning of anti-malaria interventions.

121. The development of isotope hydrology for water resources management played a vital role in addressing water shortages in Africa. The Group noted with appreciation the input of the Agency's Water Resources Programme to the Global Environment Facility's Scientific and Technical Advisory Panel in the area of managing aquifer recharge, where the potential impacts of climate change had been highlighted. Several regional training programmes had been successfully conducted on water resource management in an effort to build capacity in Member States. The Group urged the Secretariat to strengthen further its partnership with the Global Environment Facility.

122. The Group was seriously concerned at the Agency's assessment of the magnitude of the harmful effects of cancer in developing countries, including the statement that the number of new cases could reach 16 million by 2020 unless the international community took action. The Group welcomed the Agency's policy of seeking to develop an Agency-wide strategy for PACT implementation and the inclusion of PACT as part of the Agency's Human Health Programme, as well as the Regular Budget provision to cover part of PACT's funding requirements for management and essential support.

123. The African Group endorsed the comments made on behalf of the Group of 77 and China with regard to tsetse flies and trypanosomosis, the IAEA Nobel Cancer and Nutrition Fund special events held in Africa, Asia and Latin America, and the Forum on Cancer Control in Africa. The Group would table a resolution in support of PATTEC at the forthcoming 51st regular session of the General Conference and fully supported the resolution on PACT to be tabled by the Group of 77 and China.

124. Mr. SANDTNER (Germany) welcomed the Agency's efforts to build and strengthen partnerships with organizations of the United Nations family and with other entities, of which its close cooperation with WHO and the establishment of three new partnerships within PACT were good examples.

125. The six areas addressed in document GOV/2007/26 showed that the Agency's work not only covered all aspects of nuclear energy, but also dealt with a number of other issues that were of growing importance for the world population. One such issue was the endangered hydrological balance of a number of lakes and seas and the insufficiently understood routes of aquifers. Germany especially appreciated the Agency's contribution in the field of groundwater management. The Atlas of Isotope Hydrology for Africa was of particular value.

126. The large number of States requesting PACT missions demonstrated the high priority of such assistance. The efforts to eradicate the African tsetse fly and trypanosomosis were also of great importance.

127. Germany noted that the updated low projection for nuclear energy in 2030 presented in the report was significantly higher than the past year's estimate and showed a substantial increase in requests for assistance with national energy studies. Those studies should also focus on such crucial issues as sufficient infrastructure and know-how, as well as nuclear and radiation safety and waste management.

128. Mr. SHARMA (India) said that his country attached great importance to the application of isotopic techniques for water resources management. He noted with approval the Agency's efforts to bring isotope hydrology into the mainstream of national and international water resource-related programmes. India commended the holding of the International Symposium on Advances in Isotope Hydrology and its Role in Sustainable Water Resources Management and was pleased at the record number of participants from many countries; it welcomed the focus on assistance to Member States aimed at enabling them better to understand and quantify ground and surface water resources and to design and implement national strategies for their effective management through technical cooperation projects; it endorsed the special efforts devoted to building partnerships and strengthening collaborative relationships with other United Nations organizations in that vital area; and it commended the education and training activities related to the dissemination of information on isotope hydrology techniques to scientists and technicians from developing countries through the development of appropriate tools.

129. He noted with approval the training of 450 professionals working in the cancer care field and the focus on the six PACT Model Demonstration Sites. India had offered to collaborate with PACT and was ready to lend its facilities, expertise and experience to that end and to serve as a regional training centre to develop sustainable indigenous cancer control capacities and provide multidisciplinary cancer control training. In 2006, India had donated a cobalt-60 teletherapy machine, Bhabhatron, to the PACT programme. It was working with the Agency to advise it on identifying activities for which Bhabhatron could be used in a friendly developing country. He welcomed the consolidation of PACT partnerships with WHO and other international cancer organizations and expressed appreciation for the fund-raising efforts of the PACT Programme Office and its public awareness and outreach activities.

130. India attached high priority to nuclear power applications and had taken an active part in drafting the resolution on nuclear power applications at the 2006 session of the General Conference.

131. India appreciated the publication of the paper on Considerations to Launch a Nuclear Power Programme to assist Member States in identifying issues that needed to be considered when establishing a nuclear power programme. It welcomed the holding of a workshop on issues related to the introduction of nuclear power in December 2006, which had proved very beneficial to developing countries. The Agency should conduct such workshops periodically. It also commended the Agency for organizing activities related to core nuclear knowledge management aimed at ensuring safe operation.

132. His delegation looked forward to the publication of the guide *Milestones in the Development of a National Infrastructure for Nuclear Power* and would participate in the workshop on the topic in November 2007.

133. Innovative nuclear energy systems must play an increasing role in meeting the energy demands of growth-oriented developing countries in a sustainable manner. Convinced of its crucial role in attaining that objective, India had been associated with INPRO since its inception and had made a significant contribution to its efforts. It also encouraged Agency activities related to the development of common user criteria and the development and deployment of nuclear power plants in developing countries. INPRO should be given high priority in the Regular Budget and should receive greater financial support so that all its Phase 2 activities could be implemented more expeditiously.

134. In the area of advanced nuclear reactor designs under development, such as light water reactors, pressurized water reactors, gas cooled reactors, accelerator driven systems and high temperature reactors, his country supported all activities envisaged by the Agency. India had submitted a draft proposal for a joint study to cover all high temperature reactors for various applications including

hydrogen generation and was inviting all interested INPRO Member States to participate. A 100 kW(th) compact high temperature reactor under development at the Bhabha Atomic Research Centre was a prototype technology demonstration reactor which, in addition to producing electricity, would provide the power needed for producing alternative fuels and energy carriers for transport applications as a long-term sustainable alternative to oil.

135. Given their direct relevance in developing countries, India supported the deployment of small-grid SMRs for both power and non-power applications. Indian experts had contributed to many Agency activities in the area of nuclear desalination, and India supported all Agency initiatives in the associated areas of hydrogen production, district heating and other industrial applications. India was in the process of setting up a 6300 m<sup>3</sup>/day demonstration plant using a hybrid multistage flash–reverse osmosis desalination system which would be connected to an existing pressurized heavy water reactor at the Madras Atomic Power Station in Kalpakkam, and it was prepared to share its experience and expertise with other interested Member States.

136. Mr. BARRY (United States of America) said that the benefits of peaceful nuclear energy should be made widely available to meet the growing energy needs of both developed and developing countries. Financing was a very important issue in that regard. In 2006, the General Conference had requested a report on innovative means of financing nuclear power as an option in meeting the energy needs of interested developing countries. It appeared that the report would not be ready for the forthcoming session of the General Conference, but given the importance of financing, he hoped it would be ready in the near future.

137. The broader use of nuclear energy was part of the Global Nuclear Energy Partnership vision. The United States was rapidly expanding the partnership and looked forward to working with partners in such areas as reliable fuel services and support for nuclear infrastructure development. Additional support for countries taking decisions on nuclear power was part of an attractive offer that the United States and the Russian Federation had described in July in their Declaration on Nuclear Energy and Nonproliferation Joint Actions<sup>6</sup>.

138. The Agency's work on reliable access to nuclear fuel was an integral part of efforts to support an expansion of nuclear energy. His delegation appreciated the Director General's June report<sup>7</sup> and the recent technical briefing. It would continue to work with other Member States and the Secretariat on concrete steps to establish fuel supply assurances that would help countries enjoy the peaceful uses of nuclear energy without their needing to make expensive and unnecessary investments in proliferation-sensitive capabilities.

139. Ms. QUINTERO CORREA (Colombia) highlighted the importance of the Agency's activities related to science, technology and applications, and in particular the use of isotope hydrology for the management of water resources and the PACT programme.

140. The 4th World Water Forum and Ministerial Conference held in Mexico City in 2006 had called for a greater commitment and more intensive actions to meet the drinking water goals set in the Millennium Declaration and Johannesburg Plan of Implementation. One of the main conclusions of the Forum had concerned the need for a considerable increase in support from all sources, including national funds, development assistance and other resources, in order to achieve the agreed water-related objectives.

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<sup>6</sup> See INFCIRC/709.

<sup>7</sup> GOV/INF/2007/11.

141. Colombia welcomed the use of isotopes to acquire a better understanding of the water cycle and in that context endorsed the work on groundwater management and isotope-based monitoring of river hydrology and the Global Network of Isotopes in Rivers.

142. Easier access to isotope analysis was of particular importance, and she noted with gratification that one of the major objectives of the Agency's water resources programme was to enhance the capacities of Member State laboratories to produce reliable analytical data for addressing national and regional water resource issues.

143. The Agency's work on the development and training of human resources was of great value in water resources management. She particularly welcomed the development of audio-visual material to help with the training of scientists in isotope analysis and the set of internet-based data management tools.

144. Turning to the PACT programme, she welcomed the inclusion in the Regular Budget of an allocation to cover part of that programme's needs for administration and essential support, and endorsed PACT's efforts to strengthen Member States' capacity to combat cancer in cooperation with international associations and donors.

145. The imPACT international multidisciplinary assessment missions had an important role to play in evaluating and advising on the establishment of integrated programmes for the prevention, treatment and control of cancer, and there had already been many requests from Member States for such missions.

146. Colombia welcomed the proposal by the PACT Programme Office to develop a programme framework and specific funding proposal to establish regional cancer training networks and hoped that the initiative would enjoy support as an important step towards strengthening national and regional capacities for combating cancer.

147. She also welcomed the activities carried out with the help of the IAEA Nobel Cancer and Nutrition Fund, in particular the three special events and the statements made there calling for greater support from the international community and donors to mitigate the growing cancer burden in the developing countries. The participation of WHO regional offices in those events, which had received broad media coverage, was part of the process of seeking to establish a joint IAEA-WHO programme for cancer prevention, control, treatment and research.

148. Noting the assistance provided by PACT through financial and in-kind contributions from Member States and other sources, as well as promises of support, grants and donations, she urged Member States and public and private sector organizations to continue increasing their assistance. The PACT Programme Office also performed vital work in collecting funds from non-traditional donors and in preparing and implementing a medium-term global fund-raising strategy to provide resources for combating cancer and mitigating its burden on developing countries.

149. Mr. GUO Yongheng (China) said that the promotion of nuclear science and technology was a very important aspect of the Agency's activities which his country would continue to support fully. He noted with satisfaction that over the course of the past year, in response to the resolutions of the 49th and 50th regular sessions of the General Conference, the Secretariat had done a great deal of work in the areas of nuclear power, innovative nuclear technologies, water resources, PACT and PATTEC as well as the production of drinking water using SMRs. Results had been obtained and progress achieved which had contributed actively to the peaceful use of nuclear energy and responded to the need for reliable and sustainable development of society in the developing countries.

150. Over the past year, the PACT programme had made significant progress towards establishing model demonstration sites and regional cancer training networks. The results of expert evaluations of PACT had been welcomed by Member States.

151. In the water resources area, the Agency had held an International Symposium on Advances in Isotope Hydrology and its Role in Sustainable Water Resources Management, and the Global Network of Isotopes in Rivers was also a programme supported by many Member States.

152. The Agency had made considerable efforts in preparing seminars and publishing technical documents on nuclear power infrastructure, plant operating life and spent fuel management. All the documents concerned were very helpful in planning and formulating strategies for the development of nuclear power in Member States.

153. China currently had 11 nuclear power generating units in operation, with a total installed capacity of 9100 MW, and its goal in the medium term was to have 40 000 MW of installed capacity by the year 2020 and an additional 18 000 MW under construction. China was participating in the Agency's INPRO programme as well as in the Generation IV International Forum and the ITER nuclear fusion programme.

154. Together with the Agency, China would hold a ministerial conference in the spring of 2009 on the subject of nuclear energy in the 21st century. The success of that conference would have a positive impact on the development of nuclear power the world over.

155. Mr. KARASEV (Russian Federation) said that cooperation on the peaceful uses of nuclear energy, including the development of innovative nuclear technologies and nuclear power infrastructures as well as the preservation and strengthening of nuclear knowledge, should continue to be a priority focus of the Agency's work. In that connection, he drew attention to the Russian Government initiative aimed at promoting the continued development of nuclear power for peaceful purposes and enhancing proliferation resistance at all stages of the nuclear fuel cycle.

156. Consultations with the Secretariat were continuing in connection with President Putin's initiative to establish a global infrastructure that would ensure equal access for all interested parties to nuclear energy by means of a system of international fuel cycle service centres, and in particular the creation of the International Uranium Enrichment Centre in Russia. In that context, the Director General's report in document GOV/INF/2007/11 provided useful material on the legal, institutional and other aspects of an assured supply mechanism.

157. The development of safe and proliferation-resistant innovative systems was an important element for the future of nuclear power. In that regard, he stressed the importance of the INPRO project and recalled the Russian-United States Declaration reproduced in document INFCIRC/709, which stated that the envisaged efforts to support the expansion of nuclear energy built on, reinforced and complemented existing activities, including those of INPRO and the Generation IV International Forum. The INPRO participants had continued to improve the methodology for evaluating innovative nuclear energy systems, drafting user guides, coordinating cooperation projects and formulating common user requirements.

158. The Russian Federation had deposited the instruments of ratification of the agreements concerning the ITER Organization with the Director General and would cooperate on the successful completion of the project in every way possible.

159. His delegation did not object to the Board approving the Director General's report on the present item or authorizing him to submit it to the General Conference, but it regretted that the Secretariat had not yet been able to present the report on innovative means of financing nuclear power

requested in General Conference resolution GC(50)/RES/13.B. He hoped the Secretariat would continue work on that report and submit it to the Board for consideration.

160. Mr. GASHUT (Libyan Arab Jamahiriya) expressed appreciation to the Agency for the support given to Libya in establishing an isotope hydrology facility in its Renewable Energies and Water Desalination Centre and in training national experts to operate the facility. The Centre would play an important role in water management, for groundwater in particular. He also thanked the Secretariat and its experts for their assistance in preparing a document on the establishment of a regional nuclear medicine and radiotherapy centre, which would serve to combat cancer in Libya and in many other African countries.

161. He thanked the Agency for cooperating with other organizations in supporting initiatives in Africa to implement programmes related to shared aquifers, and for the assistance provided with the integrated management of the Nubian aquifer shared by Chad, Egypt, Libya and Sudan.

162. With regard to capacity building and the enhancement of human resources, it would be useful for the Agency to prepare programmes for training sessions to be held in various regions and to issue the results to all Member States so that they could benefit from them, for example the audio-visual material used in a training programme on field techniques in Central America.

163. He commended the Agency's efforts in combating cancer and its cooperation with WHO, the International Agency for Research on Cancer and other organizations providing support and information to States in that field. His country also appreciated the assistance provided to PATTEC, the SIT having proved very successful in a number of areas.

164. Mr. CAMERON (Australia) commended the Agency's work in the areas of isotope hydrology, cancer therapy and the eradication of disease-carrying insects, as it strengthened the technical basis and enhanced the practical application of those techniques in helping meet major health challenges. The Agency's activities in nuclear science, technology and applications provided the sound basis needed to support effective delivery of the technical cooperation programme. As the current chair of the RCA, Australia was grateful for the assistance provided by the Secretariat in addressing issues of regional importance in agriculture, health, environment and industry.

165. Much of the world, including Australia, faced increasing challenges in connection with the availability and utilization of scarce and unpredictable water resources. Australia, having seen the value of isotope hydrology for water resource management, supported the Agency's efforts to increase the participation of water specialists in its activities and the initiative under the technical cooperation programme to integrate isotopic techniques into national water resource management practices. In all those activities, he encouraged the Agency to help Member States build sustainability in their national nuclear institutions.

166. Given the potential role of nuclear power for meeting future energy needs, Australia welcomed the range of technical publications being produced by the Agency to help interested States understand the infrastructure necessary for the safe and effective introduction of nuclear power. It looked forward to the imminent publication of the guide *Milestones in the Development of a National Infrastructure for Nuclear Power*, which was expected to set out the full extent of the infrastructure required, and it encouraged interested States to participate in the related workshop planned for November 2007.

167. He noted that the Agency had begun a programme to promote alliances to improve the utilization of research reactors and the scope of services they provided. In that context, Australia was pleased to be hosting the IAEA International Conference on Research Reactors: Safe Management and Effective Utilization in Sydney in November 2007 and looked forward to the outputs from that event. It also welcomed the designation of the Australian Nuclear Science and Technology

Organisation as an IAEA Collaborating Centre for Neutron Scattering Applications, which had been announced on the occasion of the official opening of the OPAL research reactor in April 2007. As a first activity under that initiative in November 2007, Australia would host a Neutron Diffraction School.

**The meeting rose at 1 p.m.**