

October 2000

Programme for Promoting Nuclear Non-Proliferation, Newsbrief, Number 51

Citation:

"Programme for Promoting Nuclear Non-Proliferation, Newsbrief, Number 51", October 2000, Wilson Center Digital Archive, Contributed by Michal Onderco from the private papers of Benjamin Sanders. Copies also available in MS 424, University of Southampton Special Collections. <https://digitalarchive.umd.edu/document/260502>

Summary:

A compilation of the latest news, events, and publications related to nuclear weapons and nuclear non-proliferation. The "Newsbrief" was produced by the PPNN and personally edited by Ben Sanders.

Credits:

This document was made possible with support from Carnegie Corporation of New York (CCNY)

Original Language:

English

Contents:

Original Scan

PROGRAMME FOR PROMOTING NUCLEAR NON-PROLIFERATION

Number 51

NEWSBRIEF

3rd Quarter 2000

Editorial Note

In its last two issues the Newsbrief carried the announcement that it might soon stop appearing, for lack of funds. As matters stand now, it should be possible to put out one more issue after the present one, but unless new finances can be found, production must stop in January 2001. For the past thirteen years the Newsbrief has been one of the main products of the Programme for Promoting Nuclear Non-Proliferation (PPNN). Published every three months, it has presented information about the spread of nuclear weapons and their means of delivery and about moves to deter that spread, as well as about relevant developments regarding the peaceful uses of nuclear energy.

The Newsbrief started in 1987, with a print-run of 500 copies; at present 3,500 copies are produced each quarter. Of these, 2,500 are distributed to readers in more than 150 countries; the remainder is handed out at meetings and international conferences. The Newsbrief is also distributed electronically and is accessible on the Web. PPNN has never charged for this publication or for the cost of distributing it. Consideration has been given to the possibility of adopting a subscription system that would allow the Newsbrief to go on. However, PPNN does not have the facilities to administer such a system, and it would not be cost-effective to create one just for this purpose. Also, PPNN lacks the financial means to bridge the time it would take to set up a subscription system, and it is not likely that enough subscribers could be found right away to cover the cost of the enterprise. Limiting distribution to electronic means would bring some savings, but not all

readers have Internet access, many have let us know they prefer receiving hard copies, and anyway, printing and distribution of hard copies are relatively minor items among total costs. Therefore, if — as now seems likely — no new resources can be found in time, the Newsbrief will stop publication with the appearance, in early January 2001, of issue no. 52, covering the fourth quarter of the current year.

The present issue covers the period 1 July to 6 October. Unless otherwise indicated, dates (day/month) refer to 2000. Where reference is made to an uninterrupted series of items from a daily newspaper or a news agency, only the first and last dates of the series are noted. For example, "18–25/08" following the name or symbol of a particular publication means that use has been made of items appearing there on each day from 18 to 25 August 2000. Names of publications that are referred to often are abbreviated; a list is given on the back page.

PPNN's Executive Chairman, Ben Sanders, is editor of the **Newsbrief** and takes responsibility for its contents. The inclusion of an item does not necessarily imply the concurrence of the members of PPNN's Core Group, collectively or individually, with its substance or its relevance to PPNN's activities, nor with the way it is presented.

Readers who wish to comment on the substance of the **Newsbrief** or on the way any item is presented, or who wish to draw attention to information they think should be included, are invited to send their remarks to the editor for possible publication.

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I. Topical Developments

a. Non-Proliferation Developments

- In the United States, an amendment to the Defense Authorization Bill for Fiscal Year 2001, adopted by the Senate, includes a Sense of the Senate (i.e., non-binding) Resolution calling on the Administration to appoint a high-level 'non-proliferation czar' to coordinate US efforts in that field. A move to that effect was provided for in a law of 1996, but never carried out. The amendment, which was adopted in the context of the 'Nuclear Cities' amendment on cooperation with the Russian Federation (see next section) also authorizes \$2 million for educational activities in both countries, to develop new non-proliferation experts. (**News Release Senator Pete V. Domenici**, 11/7)

b. Nuclear Disarmament and Arms Limitation

- Another round of consultations between the **Russian Federation** and the **United States**, on a third Strategic Arms Reduction Treaty (START III) was held in Geneva in mid-August. Reportedly, the talks also had the purpose of elaborating measures to reduce the risk of an accidental outbreak of nuclear war agreed on in Okinawa in July between the Presidents of the two countries. These were said to have included the establishment of a joint centre for the exchange of data on early warning of missile launches, ways for each side to warn the other of test or space launches, and a project to improve sensors in early-warning satellites. The delegations were led by the chief of the Russian Foreign Ministry's security and disarmament department, Yury Kapralov, and John Holum, US Undersecretary of State for arms control and international security.

Russia's Foreign Minister Igor Ivanov has said once again that his country will not conclude a START III Treaty unless the 1972 Anti-Ballistic Missile (ABM) Treaty remains intact.

(**Dallas Morning News**, 15/8; **AP**, 16/8; **IT**, 16/8; **R**, 18/8; **AFP**, 19/9)

- In 1993, the **Russian Federation** agreed to sell the **United States** 500 tons of highly enriched uranium (HEU) from dismantled nuclear weapons, at an estimated total price of \$11 billion. Over a period of twenty years, the material would be delivered in blended-down form to the US Uranium Enrichment Corporation (USEC). So far, the equivalent of 80 tons of HEU have been supplied, at a cost of about \$2 billion. Difficulties have arisen, however, ever since USEC was privatised, and the price of uranium on the US domestic market has greatly decreased. US industry has repeatedly tried to block further Russian supplies, and, until the US President, last June, decreed that accounts containing payments under the uranium contract should be protected from seizure, foreign banks seeking repayment by Russia of alleged debts, unrelated to the uranium sales, tried to block Russian assets in the US. In Russia, too, there is resistance to the deal. Rumours have been floating about "secret sell-offs" of Russian uranium to the US. Deliveries are now said to have been resumed and are expected to proceed at the rate of 30 tons a year. Russia's Atomic Energy Minister, Yevgeny Adamov, has said that the deal has proven very profitable to his country.

In the US House of Representatives, a Democratic bill has been introduced that would re-establish USEC as a government-run entity. The initiative is resisted by Republicans in the Congress and by USEC itself.

(**IT**, 20/4, 24/4, 7/7, 12/9; **FT**, 13/6; **AP**, 29/6; **AFP**, 24/7; **Nuclear Weapons and Materials Monitor**, 31/7)

- At July's G-8 summit meeting in Okinawa, the world's leading industrial nations agreed to give financial assistance to the **Russian Federation** for the disposition of the 34 metric tons (MT) of excess weapons-grade plutonium which it has agreed to destroy by converting it to mixed-oxide (MOX) reactor fuel or immobilising it. The US has committed itself to dispose of the same amount. Disposition at an initial rate of 2 metric tons a year will begin in 2008 and the two states have undertaken to at least double the disposition rate at the earliest practical date. The agreement was signed on 29 August by Prime Minister Kasyanov in Moscow, and Vice President Gore in Washington. It stipulates that the activities of Russia and the US "connected with the destruction of weapons-grade plutonium will be open for the international community and will be under control of the [IAEA]". The 34 metric tons each country will dispose of is said to represent about one-quarter of Russia's military plutonium stockpile and one-third of that of the US. Canada, France, Germany, Italy, Japan and the UK have agreed by next year to develop an international financing plan to help Russia defray the estimated \$1.7 billion involved; the US has pledged to contribute \$200 million and the President has asked Congress for another \$200 million. The UK has announced it will contribute £70 million (about \$100 million). Russia plans to use the entire quantity in reactor fuel but has said that it will need time to adapt its reactors to run on MOX fuel. The US' part of the programme is estimated to cost \$4 billion; it has said it will use 25.5 MT as fuel and immobilise 8.5 MT. Russia's Minister for Atomic Energy has said that consideration is given to selling MOX fuel to Western European reactor operators, but that the spent fuel would have to be repatriated to Russia for reprocessing or disposition.

Plans for the export to Russia of major components of the unfinished Siemens MOX-fuel fabrication plant at Hanau appear to be underway. Shortly after the elections that brought the present anti-nuclear socialist/green government to power it was not expected that the government would approve the sale, but it appears that the US has exerted strong pressure in favour of the sale of the plant to Russia. Chancellor Schröder is quoted as having said that the sale would be in the interest of international nuclear security. The cost of exporting the plant is estimated at \$40 million. Plans call for Siemens to buy the principal components of the facility from the German government and to install them in an internationally sponsored MOX fabrication facility at the Mayak complex near Chelyabinsk. The operation of the facility would be monitored by the IAEA.

The US Department of Energy (DoE) has said that its Los Alamos National Laboratory will not be able to make the lead test assemblies for the MOX project in the time available, as it had been expected to do. This will now, reportedly, either have to be done in Europe or by another US laboratory.

MOX fuel made with Russian and American weapon-grade plutonium is to be tested in a Canadian CANDU reactor. The Russian portion, consisting of 538 grammes of plutonium, was airlifted to the Chalk River Laboratory in late September. The US portion is already in Canada.

Environmentalists and anti-nuclear organisations are protesting against the use of plutonium in MOX fuel. Greenpeace and the Washington-based Nuclear Control Institute are opposed because they claim that the use of MOX poses a proliferation risk and is a threat to the environment. On 28 September, 160 anti-MOX groups in Canada, the Russian Federation and the US joined to stage a 'NIX MOX Day', where they called for immobilisation of plutonium as waste, i.e., mixing it with other materials and "dispositioning" it through burial.

(IT, 14/6, 30/6, 21/9; AFP, 26/6, 7/9; SF, 26/6, 7/8, 11/9, 25/9, 2/10; Environment News Service, 28/30; Press Announcement from UK Prime Minister's Office, 21/7; UPI, 21/7; R, 28/8, 5/9, 20/9; CNN, 2/9; BBC, 6/9; NW, 7/9, 21/9, 28/9; Bellona, 25/9; Handelsblatt, 25/9; Institute for Energy and Environmental Research, 28/9)

- Cooperation between the **Russian Federation** and the **United States** on the disposition of excess nuclear-weapons material and on dismantling decommissioned nuclear submarines appears to be intensifying. Besides the resumption of the transfer of Russian HEU to the US (see the first item of this section), there is said to be progress in the construction of a US-financed storage site for excess weapons material, in the disposal of the nuclear components of nuclear submarines that are no longer in use, and in the development of non-proliferation programmes in Russia's nuclear cities. The 'Nuclear Cities Initiative' is directed at the restructuring of a major part of Russia's nuclear-weapons complex from military to civilian activities, including the reeducation of technical personnel and the development of incentives to deter them from offering their nuclear know-how to interested parties abroad.

In late August/early September, US Energy Secretary Bill Richardson visited nuclear installations in Russia, including a submarine base and the Avangard nuclear weapons plant in the closed town of Sarov (formerly Arzamas-16). Reportedly, at Sarov, Richardson promised US financial assistance to accelerate the conversion of nuclear-weapons facilities there into a large civilian technology park. Richardson viewed decommissioned nuclear submarines as well as 'Oscar'-class boats similar to 'Kursk'. Russian military and nuclear authorities are said to have given Secretary Richardson and his entourage extensive access into sensitive facilities as well as naval vessels. The Secretary is reported to have pledged his support for a Russian request for a US contribution of \$100 million towards the \$200 million cost of a floating dry dock for the interim storage of submarine reactor parts. He is also said to have signed an agreement with the Russian Navy on future cooperation on nuclear material security. The US is assisting Russia in enhancing security of installations for long-term storage of irradiated submarine reactor fuel and the storage of fresh fuel on shore and aboard Navy vessels. In early October, DoE

announced the completion of security-system enhancements on the second of three Russian submarine service ships, through the DoE Nuclear Non-Proliferation Program. The UK has also concluded a contract to assist in the recovery of nuclear fuel from decommissioned Russian submarines.

Amidst new reports about lax security and deteriorating safety at the facilities where the Russian Northern fleet keeps large stockpiles of obsolete nuclear missiles, torpedoes and shells, it was announced that a prototype transport and storage container for spent fuel from nuclear submarines has been developed in Russia as part of the Arctic Military Environmental Cooperation (AMEC) project, under the aegis of Norway, Russia and the US. The container is said to be capable of storing 40 tons of fuel for up to 50 years. A container capable of holding twice that amount is under development. The US is said to be interested in buying containers of this type to store irradiated fuel from Russian submarines, under the Cooperative Threat Reduction Program. Japan, the Netherlands, Norway and the UK have also been mentioned among countries interested in buying such containers. The UK is reported to have allocated £80 million (\$120 million) for the decommissioning of nuclear submarines. A floating complex for processing liquid radioactive waste from nuclear powered submarines will be commissioned on Russia's East Coast. The facility was built in cooperation with Japan and should be able to process 7,000 cubic metres of liquid radwaste a year.

A report of the Russian-American Nuclear Security Advisory Council (RANSAC) presented at a briefing held by that organisation jointly with the Non-Proliferation Program of the Carnegie Endowment for Peace, on 15 August, claims that the US-Russian Nuclear Material, Protection, Control and Accounting (MPC&A) program is falling behind in its task of helping Russia account for and protect its stocks of weapons-grade nuclear material. The report 'Renewing the Partnership: Recommendations for accelerated Action to Secure Nuclear Material in the Former Soviet Union' asserts that funds do not meet the growing demands, that much of the work previously planned under the six-year old programme still remains to be done – including the assessment of the amount of material involved and of the state of security of the laboratories — and that cooperation between officials of DoE and the Ministry of Atomic Energy (Minatom) has deteriorated.

While admitting that state authorities have failed to exercise sufficient control over nuclear materials, Russia's Prime Minister has undertaken to improve the system and establish, by 2001, "consolidated control over nuclear materials". Earlier, the Prime Minister had stated publicly that all fissile materials were under the state's control, but comments in the press indicate that there is no legal base for central control of nuclear materials nor does Russia have the equipment necessary for the purpose. Reportedly, the nuclear material in the Russian Federation is held by a total of 61 organisations, most of which belong to or are supervised by Minatom. The system of recording and monitoring the material is said to have deteriorated since the days of the Soviet Union. According to a Russian press report, while there were two attempts between 1945 and 1991 to steal fissionable material, between 1991 and 1995 there were 21 such attempts. Subsequently,

strengthened security measures are said to have again reduced the number of attempted thefts. The issue of nuclear-materials control was also the subject of a conference held in Moscow at the time this issue of the *Newsbrief* was being completed. Sponsors were the PIR Centre and the Carnegie Endowment's Moscow Center.

(News Release Senator Pete V. Domenici, 11/7; AFP, 24/7; Carnegie Endowment Press Announcement, 3/8; R, 15/8, 4/9, 5/9; WT, 16/8; St. Petersburg Times, 24/8; I, 27/8; AP, 31/8; FRE/RL, 4/9; NYT, 4/9, 5/9; Sydney Morning Herald, 5/9; NNN, 6/9; Rossiyskaya Gazeta, 29/9; Segodnya, 29/9; Gazeta.ru, 2/10; PIR/Carnegie Press Release, 2/10; DoE Press Release, 2/10; direct information)

c. Nuclear Testing

- According to a report from Vienna, officials of the Preparatory Commission for the Comprehensive Test Ban Treaty Organization (CTBTO) believe that **China** may ratify the Treaty in the near future. (AFP, 24/8)
- The former Chairman of the Atomic Energy Commission of **India**, P.K.T. Iyengar, has once again warned the government in New Delhi that it should not sign the Comprehensive Test Ban Treaty (CTBT), as more tests are needed to give India the capability of constructing effective hydrogen weapons.

In response to an appeal from Japan's Prime Minister Mori, on a visit to New Delhi, that India should join the CTBT, India's External Affairs Minister, Jaswant Singh, said that his country would not stand in the way of the CTBT's implementation, and indicated that once major powers such as China and the US had ratified the Treaty, India would be prepared to follow their example. Following the news that Japan had made grants totaling \$176 million for several Indian development projects, a senior official of Japan's Foreign Ministry explained that the reaffirmation by India's Prime Minister, A.B. Vajpayee, of his country's moratorium on further nuclear tests was one reason why these grants could be made. An official traveling with Prime Minister Mori was said to have indicated that the grants came from funds previously allocated, but that no new money would be made available until India ratified the Treaty.

India is reported to have rejected the call by the US, made shortly before Prime Minister Vajpayee was to visit Washington, for a moratorium on the production of fissionable material.

(Hindu, 31/7, 13/9; AP, 24/8)

- It has been announced in Moscow that on 28 and 31 August and 3 September, the **Russian Federation** carried out three subcritical tests at Novaya Zemblya. The main purpose of the tests was said to have been to check the rate of plutonium decay in weapons. Reportedly, for economic reasons the frequency of replacement of fissionable material in nuclear weapons has been reduced as compared to the Soviet era, and the tests were to see whether shelf life could be extended, and expenditures reduced accordingly. (ASS, 5/9; Bellona, 8/9)
- A report of the General Accounting Office (GAO) of the **United States Congress**, issued in September, has claimed

that the cost of construction of the National Ignition Facility (NIF) at Lawrence Livermore National Laboratory will be several times more than initially estimated and that completion will be six years behind schedule. NIF, a large laser device, is intended to serve as a part of the US Nuclear Stockpile Stewardship Program, to simulate conditions occurring in nuclear explosions and thereby make explosive testing of the safety and reliability of nuclear weapons unnecessary. According to the GAO report, the cost of the project, so far said to be \$2.2 billion, may go up to \$3 or \$4 billion, against the 1995 estimate of \$1 billion. The overrun is attributed to an unrealistic original budget, poor management, and a lack of oversight by DoE. The Secretary of Energy, Bill Richardson, has suggested covering the additional costs from funds for other defence activities in his department, but the US Congress was thought to be disposed against such a switch. In early October, the Congress unexpectedly increased the budget for 2001 to cover the overrun in NIF construction costs, requiring, however, that oversight of the project would be strengthened and a study would be made to determine if it could be replaced by a smaller version with fewer laser beams or a cheaper alternative based on a different technology.

(NW, 16/8; AP, 17/8; NYT, 19/8, 26/9, 5/10; Physicians for Social Responsibility Press Release, 11/9; CSM, 21/9. See also *Newsbrief* nos. 49, pp. 3-4 and 50, p. 10.)

d. Nuclear Trade, International Cooperation and Nuclear Export Issues

- During a visit to **India** by President Vladimir Putin of the **Russian Federation**, the two countries signed a Memorandum of Understanding (MoU) on intensifying bilateral cooperation in the peaceful uses of atomic energy. The MoU, which is not expected to be published, is reputed to contain a commitment for the further supply by Russia of nuclear power stations. Comments in the Indian press indicate that it has been concluded in clear disregard of the rule by the Nuclear Suppliers Group (NSG) that such supplies may be made only if the recipient state accepts "full scope safeguards". The Russian President is reported to have urged India to sign the NPT and CTBT and has praised it for its testing moratorium. (Hindu, 2/10, 4/10; NYT, 6/10)
- According to US government sources, **Russia** is planning to supply **Iran** with laser technology for the enrichment of uranium. The US has asked the Russian government to refrain from this deal, because it might give Iran the wherewithal to produce weapons-grade material. The US Administration has said that Moscow had suspended the sale pending an investigation whether the technology could help Iran acquire a nuclear capability, but the technical institute that would supply the technology has maintained that it is still planning to sell the equipment which, it maintains, is intended for medical, industrial and scientific purposes.

In hearings before subcommittees of the US Senate Foreign Relations Committee, the Clinton Administration was excoriated for striking a deal with Russia that did not end the proliferation of missile and nuclear technology to Iran. Government witnesses are said to have testified that Iran was continuing its nuclear-weapon programme but that the US efforts had resulted in slowing the programme's pace, driving up the cost and reducing the

quality of Iran's acquisitions. According to the CIA, Iran may soon deploy a medium-range missile and is planning longer-range missiles.

(NYT, 19/9, 20/9; AP, 5/10)

e. IAEA Developments

- The 44th Regular Session of the IAEA's General Conference was held in Vienna from 18 to 22 September. The Conference elected Professor Dr Ibrahim Othman, Director General of the Atomic Energy Commission of Syria, as its President.
- The General Conference approved applications for membership in the Agency from Azerbaijan, the Central African Republic and Tajikistan. The number of member states of the Agency thus rises to 134.
- The Conference decided to hold its 45th Regular Session in Vienna from 17 to 21 September 2001.
- In his message to the General Conference the Secretary-General of the United Nations pointed to the Agency's "vital role in meeting the challenges facing the international community in the areas of peace and development" and mentioned the three areas where it "makes a unique contribution to ... peace and prosperity in the world". While expressing concern at the major threat nuclear weapons continue to pose to international peace and security, he called the positive outcome of the 2000 NPT Review Conference encouraging and mentioned the pledges made there for new efforts aimed at the total elimination of nuclear arsenals. The Secretary-General underlined the importance of the Agency's work in verifying the fulfillment of states' obligation under arms control and disarmament measures. He called on all states to ratify the CTBT and pointed to the concern that the deployment of national missile defence (NMD) could lead to a new arms race and have a negative impact on nuclear disarmament and non-proliferation. Among other elements of the statement were the issue of nuclear safety and radioactive waste management; the Agency's rapid response to requests for emergency assistance; and the need for greater international cooperation in fighting illicit trafficking of nuclear materials. The Secretary-General encouraged the IAEA "to continue its efforts to increase public awareness and strengthen its relationship with civil society and the public sector".

The Secretary-General's remarks about the Agency's role in nuclear non-proliferation and the verification of disarmament measures; on CTBT; and on NMD, are excerpted below in section IV. **Documentation.**

- As last year, the statement by the Agency's Director General, Dr Mohamed ElBaradei was structured around the three major functions of the IAEA: as a catalyst for the development and transfer of nuclear technology; as a recognised authority on nuclear safety; and as an instrument for the verification of nuclear non-proliferation.

Referring to a number of global developments under discussion at the General Conference, Dr ElBaradei pointed out that the future of nuclear energy may depend heavily on success in developing new innovative reactors

and fuel cycle designs with enhanced safety features, proliferation resistance and economic competitiveness. He announced that if there were extra-budgetary resources available, the Agency would set up a task force on this subject. In this context, he also expressed the Agency's readiness to support an initiative announced at the recent Millennium Summit by President Putin of the Russian Federation, for an international project to develop new technology for the generation of nuclear power that would neither require nor produce weapons-grade material; in parallel, the focus would be on emerging technology to burn long-lived radioactive wastes from spent nuclear fuel and weapons stockpiles.

The Director General paid much attention to the issue of the safe disposal of high-level radioactive waste. He announced that the Canadian government was offering an underground research facility for cooperative international research and training under Agency auspices and he expressed his intention to establish a global forum on nuclear waste in which all concerned parties would participate, including policy makers, civil society and the media, with a view to building an international consensus on this issue.

A major part of the statement was devoted to the Agency's activities in the area of nuclear safety, which the Director General saw as vital to the future of nuclear technology. He reported that safety upgrades at nuclear installations in Eastern Europe were continuing to achieve positive results. He mentioned three major components of the international safety regime: international conventions, a body of internationally agreed safety standards, and mechanisms for the application of these standards. The Assistance Convention had continued to offer a helpful mechanism in times of urgent need. In the past year assistance had been provided to Georgia, Ghana and Thailand; accidents with radiation sources in Egypt and Thailand, which had led to five deaths, emphasised the need for decisive national and international action. The Director General described the work done by the Secretariat to ensure that its safety standards represented a consensus of member states. The standards still showed two gaps. The first related to the geological disposal of long-lived radioactive waste. The other pertained to safety standards for fuel cycle facilities, where a number of important issues were not addressed in existing standards. The Director General described the Agency's various activities with regard to safety services. In this connection he underlined the fact that over half of all research reactors in the world are more than 35 years old, and two thirds of these have been shut down without being decommissioned. Given the global scale of the problem, he said that much more needed to be done to achieve an adequate safety regime for research reactors. Also in connection with the issue of nuclear safety, the Director General mentioned that the Agency's Emergency Response Centre was receiving many requests for information about the potential radiological consequences of the accident of the Kursk submarine in the Barents Sea; it had been able to satisfy these requests thanks to the information received from the Norwegian and Russian governments. He said that the Agency had begun the use of buoys with satellite data transmission for in situ radioactivity monitoring. It would be willing to deploy such a buoy near the Kursk accident site, if requested.

With regard to Agency safeguards, Dr ElBaradei's statement welcomed the nine Additional Protocols that had been approved since the last General Conference but said that the total number (54) of Additional Protocols approved was "far short of expectations". He called on all states that had made a legally binding non-proliferation commitment to conclude the required safeguards agreements. He also pleaded for universal adherence to the Additional Protocol, without which the Agency could only provide limited assurances that do not adequately cover the absence of undeclared material or activities. The current development of new "integrated safeguards" would both strengthen and maximise the effectiveness of the safeguards system by integrating traditional safeguards measures with the measures of the Additional Protocol to ensure a system that is cost effective while achieving the maximum degree of assurance both of non-diversion of declared nuclear material and the absence of undeclared nuclear material and activities.

With regard to Iraq, the Director General said that the Agency had since December 1998 not been able to provide any assurance that this country was in compliance with its obligations under the pertinent resolutions of the UN Security Council. If the Agency was to fulfill the mandate entrusted to it under those resolutions it would have to return to Iraq. He pointed out that the inspection of the low-enriched, natural and depleted uranium still in Iraq, which was made in January 2000, could not be a substitute for the Agency's activities under the resolutions of the Security Council. In the Democratic People's Republic of Korea (DPRK), too, the Agency was still unable to verify that all nuclear material subject to safeguards had been declared. With construction of the light-water reactor project underway, the time was approaching that key nuclear components would have to be delivered, but the Agreed Framework provided that this could not be done until the DPRK had come into full compliance with its safeguards agreement.

Regarding the recent agreement between the US and the Russian Federation about the management and disposition of plutonium from nuclear weapons programmes, the Director General offered his readiness to discuss with these states how the IAEA could verify their commitments. In the context of the application of safeguards in the Middle East he expressed the Agency's willingness to arrange a forum where participants from that region could learn from the experience of other regions about comprehensive verification arrangements contributing to the establishment of a nuclear-weapon free zone.

The Agency's programme and budget estimates for the year 2001 again reflected the policy, in place for well over a decade, of zero real growth. This had forced the Agency to rely increasingly on extra-budgetary resources, now to the amount of over \$20 million, which in fact meant that the regular budget was under-funded by that amount. This made planning difficult and restricted the ability of the Secretariat to make the best use of its human resources. The Director General pointed out that corrective action had to be initiated regarding the inadequate level of regular budget funding. He also expressed concern that recently the Agency had been experiencing unusually serious cash flow problems as a result of late payment or non-payment of contributions by member states. By the end of July the

Working Capital Fund had been depleted and the Agency had barely managed to meet its financial obligations in July and August.

The portion of the Director General's statement pertaining to "The Agency as an instrument for the verification of nuclear non-proliferation", and the Conclusion contained in the statement, are reproduced below under **IV. Documentation**.

- At the outset of the Conference, Australia proposed an additional agenda item that would create an opportunity to discuss the consequences of the 2000 NPT Review Conference for the Agency's work. After preliminary discussions in which, reportedly, India and Israel, as non-parties to the NPT, demurred to this insertion, it was agreed to add an item 'Outcomes of the NPT Review Conference relevant to the activities of the IAEA'. Also at the start of the session, the General Conference rejected a request from Iraq to have its voting rights restored, which had been suspended because it was in arrears with the payment of its contributions to the Agency's budget.
- Among issues raised by delegates in the General Debate, the following are selected as being of direct relevance in the context of the **Newsbrief**:

Australia expressed the view that the momentum of the 2000 NPT Review Conference, which it saw as a "landmark event in the non-proliferation, nuclear arms control, and disarmament calendar", should be sustained through the vigorous pursuit of those outcomes that were relevant to the work of the IAEA. Japan, too, pointed to the important tasks the Final Document of the Review Conference envisioned for the Agency. In particular, it reflected a strong endorsement of the Agency in the area of safeguards and the verification of disarmament measures. Australia underlined the role of the international safeguards system and the "complementary" nuclear export control regime as the two components underpinning long-term assurance and stability of international trade in nuclear material and technology for peaceful purposes. Along with a large number of other states, these two delegations called for action to promote universal adherence to the Additional Protocols. Several delegations expressed satisfaction at the proposals worked out by the Board of Governors for revised arrangements for the assessment of members' contributions towards the financing of safeguards. China, on the other hand, felt that there was an overemphasis in the Agency's work on the non-proliferation function, at the expense of support to developing member states in the peaceful application of nuclear energy.

The issue of physical protection of nuclear materials, not only during international transport, but in respect of all activities involving the handling of nuclear material within a country, was raised by a number of delegations in the context of the prevention of illicit trafficking in nuclear materials and protection against nuclear terrorism. Among them was the Czech delegation, which specifically welcomed the work initiated by the Director General of the IAEA that would lead to a review of the convention on physical protection of nuclear materials. This delegation also spoke highly of the workshops on illicit trafficking, of which one had taken place in the Czech Republic. Italy was one of the delegations that expressed concern about

the persistent occurrence of incidents involving radiation sources, the so-called "orphan sources".

The subject of power reactors was raised in a number of statements, from different points of view. Several Western delegations, including those of Austria, Denmark, Germany and Sweden expressed opposition to the use of nuclear technology as part of a sustainable national energy supply programme. Germany in particular explained the approach it was following in the phase-out of its nuclear energy in favour of renewable energy sources, energy conservation and the improved efficiency of non-nuclear power plants. In the view of these states, the emphasis in the Agency's tasks would shift in part to safeguards and verification and to safety issues. Other states, however, notably the Republic of Korea and the Russian Federation, pointed to the long-term promises of nuclear energy through the use of new and innovative reactor types. The former spoke of the need for a "second renaissance for nuclear industry in this century", which would require joint efforts and the education of a new generation of professionals. Austria once again expressed its opposition to the completion of the Temelin nuclear power station in the neighbouring Czech Republic. Its statement was countered by the latter's delegation with an extensive expose of the safety reviews that had taken place at the plant and of the national and international assessments that had pronounced the facility to have achieved a high safety level. The issue led to heated debates in the corridors, especially since, reportedly, there had been an understanding that it would not be raised in the form in which the Austrian delegation brought it up.

The question of the decommissioning of nuclear power plants as well as of research reactors received much attention, as did the safety of spent nuclear fuel in storage and the disposal of high- and low-level nuclear waste. Among other issues that figured in the statements of many delegations were the continuing inability of the IAEA to implement its safeguards agreement with the DPRK and to resume its verification and monitoring activities in Iraq. Pakistan underlined its determination not to enter into an arms race with India and to keep its nuclear deterrents at the minimum possible level. It reconfirmed its unilateral moratorium on nuclear tests and said it was trying to build a national consensus on adherence to the CTBT.

Several speakers pointed to the need to raise the Agency's budget in relations to its growing responsibilities. The Agency's recent cash flow problems - caused, reportedly, by late payments from several major contributors, notably France, Germany and Japan - was cited as indicating the need for the Agency to build a greater financial cushion on which to fall back if contributions were in arrears.

- The General Conference approved the Agency's regular budget for 2001, which totals US \$229,984,000. Of this, the amount of \$4,891,000 is attributed to Reimbursable Work for Others, and there will be Other Miscellaneous Income totaling \$4,246,000, which leaves a sum of \$220,847,000 to be covered by contributions by member states. The portion of the Regular Budget attributed to Nuclear Verification and Security of Material is \$82,983,000, compared with \$81,568,000 for the year 2000. (IAEA Document GC(44)/6 Annex I.A)

- Eleven new members were elected to the Board of Governors for a two-year term — Argentina, Egypt, Ghana, Ireland, Libyan Arab Jamahiriya, Mexico, Pakistan, Peru, Switzerland, Thailand, and Ukraine. The proceedings were held up by disagreement over the candidatures for Eastern Europe, Africa, and the Middle East and South Asia. In the end, members of these regions found a solution in periodic rotation. The other 24 Board members, which have either been designated by the Board of Governors or had been elected previously by the General Conference, are Algeria, Australia, Austria, Belarus, Bolivia, Brazil, Canada, China, Cuba, Finland, France, Germany, India, Indonesia, Japan, Republic of Korea, Nigeria, Poland, Russian Federation, South Africa, Spain, Syrian Arab Republic, United Kingdom of Great Britain and Northern Ireland, and United States of America. At its first meeting, the newly constituted Board elected as its Chairman for the year the Governor from Nigeria, Mr I.H. Umar, Director General of the Energy Commission of Nigeria. (IAEA Documents GC(44)/10 and GC(44)22; IAEA Press Release PR 2000/25, 25/9).
- As customary, the General Conference adopted resolutions on the principal issues before it. Resolutions on items of relevance in the present context are briefly referred to below in the order of the agenda items under which they were discussed, and are reproduced in section **IV. Documentation**. All but one of the resolutions were adopted without a vote.
- With respect to the Financing of Technical Cooperation (Agenda item 11), the General Conference adopted a mechanism designed to stimulate the flow of resources into the Technical Co-operation Fund (TCF). This is to be based on an indicator called the Rate of Attainment that is calculated by dividing the total payments into TCF divided by the TCF target. The pertinent resolution set the target for contribution for 2001 and 2002 each at \$73 million and provided that the Indicative Planning Figures for 2003 and 2004 should be no less than \$74.10 million. It further decided to set the minimum Rate of Attainment at 80 per cent for 2001, 85 per cent for 2002, and 90 per cent for 2003, and it requested the Secretariat to report on the implementation of this mechanism and requested the Board of Governors to review its functioning in 2003 or earlier, if a 90 per cent Rate of Attainment is achieved before that date. (IAEA Document GC(44)/RES/8, not reproduced.)
- Ever since the application of safeguards became a major part of the Agency's activities and began to absorb a substantial portion of its regular budget, the Agency had been under pressure from member states to ensure that safeguards expenditures would not impinge upon the means available for the Agency's promotional activities. At the 39th regular session of the General Conference, in 1995, a formula was adopted reducing the contributions to the safeguards component of each member's contribution to the Regular Budget, for so-called 'shielded states', i.e., states whose *per capita* net national products is less than one-third of the average *per capita* net national products of the fifteen members with the highest *per capita* net national products. At the time, the General Conference decided that these arrangements should be reviewed by the Board of Governors in 2000 at the latest. The review having duly taken place, the Board of Governors proposed an arrangement for the financing of safeguards that would

end the 'shielding system' within a specified time-frame under which, after a three-year adjustment period, the 'shielding system' would be phased out at different rates for each of four categories of states based on the size of their per capita gross national products. The arrangement was generally well-received although some developing states expressed the view that it was premature and Vietnam said that the arrangement should not only be based on gross national product but should also take into account such considerations as a state's nuclear programme and whether it has nuclear weapons. It was also pointed out that there should be periodic reviews of the categories, to take into account especially the possibility that gross national product may decrease. (IAEA Document GC(44)/RES/9, reproduced.)

- Under agenda item 14, Measures to strengthen international cooperation in nuclear, radiation and waste safety, which was subdivided into (a) The safety of radiation sources and the security of radioactive materials, and (b) Other safety matters, the General Conference adopted resolutions on The safety of radioactive waste management; Education and training in radiation protection and nuclear safety and waste management; The safety of nuclear research reactors; Radiological criteria for long-lived radionuclides in commodities (especially foodstuffs and wood); The Convention on Early Notification of a Nuclear Accident (the Early Notification Convention) and Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (the Assistance Convention). The General Conference also adopted an omnibus resolution which, *inter alia*, referred to the Nuclear Safety Review for the year 1999; the International Conference on the Safety of Radioactive Waste Management held in Córdoba in March; the Information System on Occupational Exposure; the radiological protection of patients; international inter-comparisons of radiation dose measurements for radiation protection purposes; and recent developments regarding, and the status of, safety-related international conventions. Whereas agreement on the afore-going issues was reached with relative ease, the question of the Safety of Transport of Radioactive Materials led to considerable discussion. As at the 2000 NPT Review Conference, a number of riparian states, including Ireland, New Zealand, and Norway, called for restrictive international rules for transport, by land, sea and air, of radioactive materials and spent fuel. One of their proposals was that states shipping radioactive materials should notify and consult with potentially affected coastal and other states, upon request, prior to the shipment of those materials. A draft resolution submitted by these states also called for "effective liability mechanisms... to address the risk of harm or economic loss": a formulation considered too sweeping by a number of industrialised states. After intensive debate, the resolution text was toned down considerably and, among other things, reference to prior consultation was removed. (IAEA Documents GC(44)/RES/11, GC(44)/RES/12, GC(44)/RES/13, GC(44)/RES/14, GC(44)/RES/15 and GC(44)/RES/16, respectively (not reproduced) and GC(44)/RES/17, reproduced. See also GOV/INF/2000/16-GC(44)/INF/7.)
- The issue of 'Strengthening the effectiveness and improving the efficiency of the safeguards system and application of the Model Protocol' was discussed at length in the Committee of the Whole. Many states pointed to the slow rate at which governments adopted the Additional Protocol, and Japan submitted an amendment containing a proposed Plan of Action designed to bring Additional Protocols into force "for a majority of states and almost all states with nuclear facilities by 2003". While agreeing in principle with an approach under which the Secretariat would facilitate the further adoption of Additional Protocols, a number of states did not feel that the Secretariat should be given the responsibility envisaged in the Japanese amendment. The resulting resolution text did recommend, however, that the Director General and the Agency's member states consider "ways and means, which could include a possible plan of action" to promote and facilitate the conclusion of further safeguards agreements and Additional Protocols. Following Iranian interventions, the operational part of the resolution contains the request to member states to facilitate exchange of nuclear items and technological information for the implementation of Additional Protocols. (IAEA Document GC(44)/RES/19, reproduced. See also IAEA Document GC(44)/12.)
- Under agenda item 17, initially intended only to cover the issue of Measures against illicit trafficking in nuclear materials and other radioactive sources, France submitted a draft resolution co-sponsored by the member states of the European Union (EU), on the 'Implementation of United Nations Security Council Resolutions Relating to Iraq'. This followed last year's model but took account of pertinent events that had taken place since, and referred among other things to the statement by the Director General that last January's physical inventory verification took place pursuant to Iraq's safeguards agreement with the Agency under the NPT but could not serve as a substitute for its verification mandate under the relevant Security Council resolutions. The resolution also made several references to further work in Iraq under those resolutions and to cooperation with the United Nations Monitoring, Verification and Inspection Commission (UNMOVIC). The draft was generally well received but the Russian Federation objected to some of its elements. Iraq claimed it had honoured all its obligations and the Agency had almost reached the point where it was ready to close the nuclear file under the Security Council mandate when the US had insisted on reopening it — an act that had led to the death of "millions of Iraqis". Iraq called for a roll-call vote on the resolution, which was adopted with 54 votes in favour, none against, and 27 abstentions, including China, the Russian Federation, India, Indonesia, Iran, Pakistan, all Arab states except Kuwait, Saudi Arabia, and the United Arab Emirates, as well as several other members of the Non-Aligned Movement. (IAEA Document GC(44)/RES/27, reproduced. See also GOV/2000/35-GC(44)/11)
- The problem of illicit trafficking in nuclear materials and the illegal trade in radioactive sources and careless handling of items are receiving increasing attention in the framework of the IAEA. A resolution on the subject was adopted in which the Agency's activities in the field, i.e., the collection of information, setting physical protection and safety standards and rendering advice to governments, are encouraged and the Director General is invited to draw up a plan for future work in the area. (IAEA Document GC(44)/RES/20, reproduced.)

- With respect to item 20, Implementation of the agreement between the Agency and the Democratic People's Republic of Korea (DPRK) for the application of safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons, the Director General had submitted a report describing the lack of progress regarding the application of safeguards and noting that again no agreement had been reached on any of the long-standing issues. The report also referred to the Final Document of the 2000 NPT Review Conference, which had noted "with concern" that the IAEA continued to be unable to verify the correctness and completeness of the DPRK's initial declaration and was therefore unable to conclude that there had been no diversion of nuclear material. During the discussion on this item, several delegates pointed to recent positive developments on the Korean Peninsula. The resolution as adopted welcomed these developments, but urged the DPRK to come into full compliance with its safeguards agreement and cooperate fully and promptly with the Agency in its implementation. (IAEA Document GC(44)/RES/26, reproduced. See also GC(44)/16.)
- As in previous years, the Director General had submitted a report on the application of IAEA safeguards in the Middle East, on which Egypt had submitted a draft resolution along the lines of the one adopted at the previous session of the General Conference. There was an expectation that because the language in the Final Document of the 2000 NPT Review Conference had been more specific than previously, Israel's position as the sole state in the Middle East not subject to full scope IAEA safeguards would be mentioned, so that it might be difficult to obtain consensus on the text. The problem was met in a "Presidential statement" of the following contents:

In the context of the agenda item on the "Application of IAEA safeguards in the Middle East" the General Conference requests the Director General to make arrangements to convene a forum in which participants from the Middle East and other interested parties could learn from the experience of other regions, including in the area of confidence building relevant to the establishment of a nuclear weapon free zone. It calls on the Director General, with States of the Middle East and other interested parties, to develop an agenda and modalities which will help to ensure a successful forum.

At the previous session of the General Conference, no draft resolution was submitted on the subject of Israeli nuclear capabilities and threat. This time again the issue appeared on the agenda, and a number of Arab states submitted a draft resolution which called upon Israel to accede to the NPT without further delay, not to develop, produce, test or otherwise acquire nuclear weapons, and to renounce their possession, and to accept full-scope safeguards. It also urged all states making nuclear supplies to Israel to apply full-scope safeguards in that regard and it requested the Director General to bring the issue to the attention of the Security Council. When it became obvious that the resolution would not receive general support, its withdrawal was made possible by a presidential statement of the following contents:

The General Conference recalls the statement by the President of the 36th session in 1992 concerning the agenda item "Israeli Nuclear Capabilities and Threat".

That statement considered it desirable not to consider that agenda item at the 37th session. The General Conference also recalls the statement by the President of the 43rd session in 1999 concerning the same agenda item. At the 44th session, this item was, at the request of certain Member States, reinscribed on the agenda. The item was discussed. The President notes that certain Member States intend to include this item on the provisional agenda of the 45th regular session of the General Conference.

As in previous years, Arab states expressed reservations about the credentials submitted by the Israeli delegation to the General Conference, on the grounds that those credentials had been issued "from occupied Jerusalem" and that Israel had annexed the Syrian Arab Golan area and refused UN resolutions relating to the annulment of this annexation. In its examination of the credentials of delegates to the session, the General Committee took note of the legal opinion provided by the Legal Advisor in 1999, according to which the Rules of Procedure provide that credentials are to be issued by the Head of State or Government or by the Minister for Foreign Affairs, but do not require that credentials must be issued in the capital of an issuing state. The legal opinion also said that while the place of signature was irrelevant to the validity of the credentials, the acceptance of credentials did not mean that the accepting authority takes in any way a position with respect to the status of the place of signature. After some further discussion the General Committee accepted the credentials. (IAEA Document GC(44)/RES/28, reproduced. See also GOV/2000/38-GC(44)/14 and GC(44)/RES/29, not reproduced.)

- Among other substantive items on which the General Conference adopted resolutions was the plan for producing potable water economically (GC(44)/RES/22); strengthening the Agency's activities relating to nuclear science, technology and applications (GC(44)/RES/21); and strengthening cooperation between nuclear research centres in the area of the peaceful applications of nuclear technology (GC(44)/RES/23). As in previous years, several Western states denied that nuclear power should be considered as an eligible option under the Clean Development Mechanism of the Kyoto Protocol while several others indicated that they did see nuclear energy as a possible way to reduce the 'greenhouse effect', particularly in the medium-term.
- Notwithstanding objections voiced by delegates from non-parties to the NPT, a resolution on the Outcomes of the NPT Review Conference relevant to the activities of the IAEA was also adopted without a vote. It was noted, however, that the eventual text of this resolution, which is said to have been the result of a hard-fought compromise, omitted references to Additional Protocols and to any activities the IAEA might undertake pursuant to Article VI of the Treaty. (GC(44)/RES/25, reproduced.)

f. Peaceful Nuclear Developments

- In **Brazil**, the Angra-2 1,300-MW pressurized-water reactor, which the German firm Siemens started building there 25 years ago, went critical on 14 July. Angra-2 was to have been the first of eight similar reactors. The Brazilian Navy is said to have plans to develop an indigenous nuclear-propelled submarine fleet. (JDW, 21/6; NW, 6/7, 27/7)

- A few days before fuel loading was to begin at the Temelin-1 power reactor, nuclear opponents in the **Czech Republic** charged that the operator had ignored safety procedures in the interest of hastening the start-up. Czech authorities responded that all safety measures were in place and working satisfactorily. The German Environment Minister, Jürgen Trittin, urged the Czech government not to allow the reactor to go critical until further studies had been made of several safety issues; the German government made a formal request for an environmental impact assessment before operation was authorised. Meanwhile, the environmental organisation Greenpeace filed a criminal [*sic*] complaint in Prague charging that a report to the Czech nuclear safety authorities on the welding of the reactor's main steam line had been falsified. The Austrian government said it had decided to veto the entry of the Czech Republic into the EU if Temelin were to go critical without addressing the safety problems Vienna maintained were still outstanding; later, the Austrian Federal Chancellor claimed he had only said that he would not agree to close the energy part of the accession negotiations until the Temelin issue was resolved. The Prague authorities, meanwhile, did their utmost to convince Berlin and Vienna that the plant met all appropriate safety requirements. Criticality was held up during these proceedings. At the 44th Regular Session of the IAEA's General Conference, the Czech delegate stated that the reactor was continuing with preparations for start-up. In late September, start-up was delayed by a leak in a safety valve, which, by 4 October, had been repaired. Criticality was expected to be reached within one or two weeks, assuming all further tests were successful. The Czech authorities were said to plan making an environmental impact assessment on the modifications made to the original design of the plant, but were not expected to use this to delay start-up.

Meanwhile, Austrian anti-nuclear activists continued their blockade of border crossing points between the two countries.

(NW, 7/9, 14/9, 21/9, 28/9, 5/10; DP, 21/9; St, 23-24/9; NYT, 24/9; direct information. See also above, page 7)

- In **Germany**, experts in constitutional law have concluded that since the issue of the phase-out of nuclear power in the country is a matter within the exclusive competence of the Federal Government, the Opposition will be unable to realise its plan to defeat the measure through a vote in the Bundesrat (the States' Chamber).

The German government has given permission for eight transports of irradiated fuel from the nuclear power stations of Biblis, Philippsburg, and Stade to the French reprocessing plant at La Hague. The transports had been stopped in May 1998, following the discovery of high radioactive levels on the outside of irradiated fuel containers. It is expected that opponents will once again try to block the transport.

(NW, 14/9; FAZ, 23/9)

- Agreement was reached in July between the nuclear authorities of **Japan** and the **United Kingdom**, under which the UK firm of BNFL will take back the eight mixed-oxide (MOX) fuel assemblies it had supplied for the Kansai nuclear power station in **Japan**, for which the

quality control data were found to have been falsified. BNFL is to bear the costs of the transport and will pay compensation to Kansai. Kansai itself has submitted a report on the event, in which it accepts responsibility for its own inadequate quality control. Reportedly, BNFL is trying to obtain new orders from Japanese utilities for reprocessing and MOX-fuel fabrication services. BNFL's Chief Executive has warned that if his firm cannot make significant sales of MOX to Japan it may have to abandon its new Sellafield MOX Plant (SMP) altogether. It is noted that SMP is so automated that it would avoid the manual quality assurance checks in which the falsifications took place. As BNFL's MOX Demonstration Facility was closed after the discovery that quality assurance data had been falsified there, to meet its short-term MOX requirements BNFL plans to make commercial arrangements with other European fabricators. (SF, 17/7; **Atoms in Japan**, August, NW, 28/9, 5/10. See also **Newsbrief** no. 49, page 6, and no. 50, page 13.)

- There are reports that the government of **Sweden**, where negotiations on the shutdown of the 600-MW boiling-water reactor Barsebäck-2 had started, is no longer planning to shut the plant down by 2001. Utilities and conservative politicians had long said that it would be impossible to make up right away for the loss of energy that would result from an early shut-down. The government was said to have taken the view that in the short term enough electricity could be imported from the Nordic market, and that eventually all nuclear-generated electricity in Sweden could be replaced from renewable energy sources, but it seems that the Minister for Industry held the view that the target date of July 2001 was too early because there was not sufficient domestic replacement power. On 3 October, the Swedish government officially informed parliament that the plant would not be closed before the end of 2003 at the earliest, because the country could not do without its electricity and there were no environmentally acceptable alternatives. Swedish environmentalists and the Danish government reacted angrily. The latter said that Sweden should not use the fact that the majority of Danish power is coal-generated as an excuse to postpone the shutdown of Barsebäck-2. (NW, 17/8, 24/8, 31/8, 21/9, 28/9, 5/10; direct information)
- The Prime Minister of **Turkey** announced on 25 July that the construction of a nuclear power plant at Akkuyu Bay will be deferred. Plans to build a nuclear power station were first announced in the early 1990s and took on concrete form by 1996. Anti-nuclear groups have long protested that the site chosen was near an earthquake zone. Reportedly, given the high government debt, Turkey is unable at present to set aside the \$3-4 billion needed for the plant, but the Prime Minister has said that once Turkey has reached economic stability, the possibility of building a nuclear power plant would be reconsidered. (BBC on-line, 25/7, NW, 27/7. See also **Newsbrief** no. 26, p. 9 and no. 41, p. 4)
- In late September, President Kuchma of **Ukraine** signed a decree calling for the shut-down and decommissioning of the Chernobyl nuclear power station. Plans for the decommissioning of unit-3, which is to be closed by 15 December, foresee the removal of the nuclear fuel and all radioactive waste, and decontamination of the plant, which, after a transition period of about 15 years, would be "mothballed" for 30-100 years.

In late August, the IAEA's Director General visited the Chernobyl site. The decommissioning of the power station will be considered as the first priority in the IAEA's Technical Cooperation Programme for Ukraine in 2001-02; Ukraine, with Agency assistance, will prepare a comprehensive conceptual plan for the decommissioning of all four reactor units. The Agency will provide technical expertise to Ukraine throughout the decommissioning process, and will assist Kiev in a range of other safety-related activities, as well as the development of a long-term energy policy.

Ukraine is intensifying its efforts to obtain the means for the completion of the Rovno-4 and Kmelnitski-2 (R-4/K-2) VVER-1000 reactors that are supposed to replace the generating capacity of the Chernobyl station. Reportedly, the EU is considering providing \$100 million for the purchase of fossil fuel to generate heat and electricity until the new reactors have been completed. Ukraine has said that with \$1.5 billion it would be able to finish the two units within two years, and although it is seeking outside financial assistance and the EU has said that it would lend its financial support, it now appears that much of the necessary funding can be found within the country.

At a conference held in Berlin in early July, over 40 states pledged altogether about \$715 million towards the reconstruction of the shield ('sarcophagus') over the radioactive remains of reactor unit-4. Total costs of the Chernobyl Shelter Implementation Plan (SIP) are estimated at approximately \$768 million; completion of the new shield — which is intended to keep the structure safe for the medium term — should take eight or nine years. The European Bank for Reconstruction & Development (EBRD), which administers SIP on behalf of 26 states and the EU, is planning this autumn to send out invitations to pre-qualify as general contractor of the project. With this step, the "implementation" phase of the project will begin. So far, the work is said to have been largely investigative and to have consisted principally of data-gathering, preliminary engineering and technical studies; some emergency work has also been done, and parts of the shield that posed immediate risks, have been stabilised.

(IHT, 6/7; NW, 6/7, 3/8, 21/9, 28/9; IAEA Press Release PR 2000/18, 1/9)

g. Nuclear Policies and Related Developments in Nuclear-Weapon States

- The manner in which the **People's Republic of China (PRC)** is seen to implement its non-proliferation policies continues to affect that country's relations with the US, as does its hostility to Taiwan's current government. China's concern about American moves towards the development of a national missile defence (NMD) system, on the other hand, and Washington's plans to include Taiwan in a theatre missile defence (TMD) system and to provide it with up-to-date weaponry also have a negative effect on relations. Yet another factor is China's enduring anger over NATO's air-attack on its embassy in Belgrade during the Kosovo conflict. America's assertion that persons of Chinese extraction have illicitly obtained US nuclear secrets and may still be doing so also remains an irritant between the two states. In the period covered by this issue of the **Newsbrief**, there have been several meetings

between Chinese and US officials about allegations that Beijing had continued to assist Pakistan's nuclear and missile programmes. China has consistently denied these reports. In August, the US Central Intelligence Agency (CIA) reported that in 1999 the PRC had increased its missile-related sales to Pakistan and had been supplying nuclear and missile-related items to the DPRK, Iran and Libya. Pakistan denied that China was selling it missiles, and Beijing called the accusations "baseless". The issue also arose in the discussions by the US Senate of normal trade relations with China — already long delayed and further held up by the summer recess — and there was brief concern that this issue might fall victim to a new Republican bill that would require the President to impose sanctions on China if the US suspects it is selling weapons to certain identified countries, including Pakistan. Apparently, however, this did not occur. On 19 September, the US Senate, with 83 votes in favour and 15 against, approved legislation to normalise trade relations between China and the US.

Critics of the US Administration have expressed opposition to new regulations announced by the President on 3 August, which would allow the Chinese military to buy, without a US government license or a multi-agency security review, computer systems with up to 28,000 million theoretical operations per second (MTOPS). Reportedly, it is possible to simulate nuclear blasts with computers between 10,457 and 21,125 MTOPS.

During a visit to Beijing in July, US Defense Secretary Cohen discussed the issue of Taiwan's defences. As reported, on that occasion Chinese senior officials once again expressed strong opposition to the American plans for national missile defence, which, they claimed, were directed against their country as much as against the "states of concern" cited in Washington as justification. In August, Chinese and US arms control officials met in Hawaii. China once again expressed its strong opposition to US NMD plans as well as to the latter's presupposed intention of including Taiwan in an Asian TMD system. Chinese defence officials have said that this would create a *de facto* military alliance with the island and might trigger a Sino-American conflict. Beijing has also said that it had every right to target missiles at Taiwan.

In response to the overtures from Taiwan's new President, Chen Shui-bian, and from the island's Premier, who have repeatedly said that they wished to open a dialogue with Beijing on the improvement of cross-Strait relations, the PRC has held fast to its position that Chen should publicly espouse the 'One-China' principle before there can be any discussion on closer ties or communications links. Taiwan's President has rejected this demand which, he has said, is evidence of a plot to annex the island; US media note that after Chen's assurances of goodwill to Mainland China, following his election, he now says that the issue of unification is for future generations to resolve and is perhaps not the only option open to Taiwan. Beijing has warned that this is a "dangerous" statement. It has also expressed "strong resentment and firm opposition" to Chen's overnight stay in Los Angeles, on 13 August — which had been intended as an opportunity to meet US Congressmen sympathetic to Taiwan — and it is indignant at Taipei's new move towards membership of the United Nations, which it depicts as an attempt to formalise Taiwan's separation from the Mainland. On a recent visit

to Beijing, Secretary Cohen is said to have received assurances from senior military officers that China does not intend to use force against Taiwan, but they are also understood to have said that China cannot relinquish its right to use force if necessary.

In August, Chinese military forces started large-scale war games along a wide stretch of coast facing Taiwan. The Taiwan government voiced concern at the announcement that the PRC was buying Russian fighter aircraft, and said it was considering buying up-to-date American fighters to restore the balance. Defence analysts in Washington have expressed the view that the Chinese military do not want to see an early resolution of the cross-Strait crisis, which gives them a rationale for a further build-up of their forces. The US House Armed Services Committee alléges that China plans to increase the number of ballistic missiles based opposite Taiwan from 200 to 650 by 2005. Military analysts in Taiwan are quoted as saying that the PRC already has 400 missiles including hundreds of M-class missiles, with a range of 300 to 400 miles (480 to 640 kms). They have said that Taiwan would be virtually powerless against a bombardment with these missiles. An independent study appearing in Washington in September says that China's armed forces are particularly improving their information warfare capabilities by which they can penetrate and destabilise an adversary's information systems. Members of the US Congress have expressed concern about China's growing ties with Russia and about the military supplies it receives from the latter.

In what American officials depicted as a "goodwill gesture to the United States", for which, they said, no compensation would be paid, and which was understood in fact to be a response to a warning from the US Congress that it would cease assisting Israel if the deal went ahead, the Israeli government has cancelled its plans to sell the PRC one or more airborne early-warning radar systems, mounted on converted Soviet-built 'Ilyushin-76' cargo planes. The 'Phalcon' AWACS system was reported to cost \$250 million. Reportedly, one such device had already been installed on a Chinese aircraft. Previously, the US Defense Department had cancelled joint Air Force exercises with Israel, supposedly to protest its military sales to China.

The US Defense Department announced in September that it was planning to sell 200 advanced medium-range air-to-air ('AMRAAM') missiles to Taiwan, at a price of \$1.3 billion. Taiwanese pilots will be trained in the use of the missiles, but it is reported that they will not be turned over to Taipei unless China introduced a similar weapons system.

(**China Daily**, 30/6, 5/7, 11/7, 12/7, 15/7, 18/7, 8/9; **NYT**, 2/7, 5/7, 9/7, 13/7, 14/7, 22/7, 26-28/7, 4/8, 3/9, 6/9, 13/9, 30/9; **LT**, 3/7, 21/7; **AP**, 4/7, 6/7, 7/7, 12/7, 21/7, 25/7, 4/8, 7/8, 10/8, 11/8, 13/8, 17/8, 2/9, 8/9; **AFP**, 5/7, 6/7, 10-12/7, 21/7, 10/8, 16/8, 5/9, 8/9, 11/9; **DJ**, 5/7; **USA Today**, 6/7; **WP**, 6/7, 9/7, 11/7, 14/7, 19/7, 22/7, 26/7; **WT**, 6/7, 10/7, 13/7, 4/8, 9/8, 12/9; **R**, 6/7, 11/7, 14/7, 27/7, 28/7, 4/8, 9/8, 10/8, 16/8, 12/9, 15/9, 19/9; **CSM**, 7/7, 14/7; **People's Daily**, 9/7, 19/7; **WSJ**, 10/7, 14/7; **BBC on-line**, 12/7; **Jerusalem Post**, 12/7; **IT**, 21/7; **LAT**, 23/7; **Wen Hui Daily**, 8/8; **Taiwanese Central News Agency**, 11/8; **Jiefang Daily**, 9/9; **Sydney Morning Herald**, 2/10)

- **Russia** has test-fired two more Topol-M ballistic missiles, one from a mobile missile launcher and one from a silo. The Topol-M has a range of 6,200 miles (10,000 kms). According to the Russian military, it is equipped to evade all existing or planned anti-missile systems.

The command of Russia's Strategic Rocket Forces has announced the decision to extend the service life of its RS-20 intercontinental ballistic missiles (known in the West by the NATO term, SS-18) to 24 years. The decision followed a successful launch on 26 September, which put a number of satellites into orbit. The missile was first put into service 20 years ago and the problem with upgrading it is said to be that a number of them were constructed in Ukraine and cannot be sent back to the original factory to be rebuilt. Another problem, which all Russian long-range missiles are said to have in common, is that the main manufacturer of inertial-guidance platforms is also in Ukraine.

At a session of Russia's National Security Council on defence policy, President Putin is reported to have taken the decision to cut the number of Russia's strategic warheads to 1,500 and apply the savings resulting from the reduction of the strategic missile arm to the country's conventional forces. As part of a reorganisation of Russia's armed forces, the reduced Strategic Rocket Forces are to become part of the Air Force. It was stressed in Moscow that the decrease in warhead numbers will not imply a reduction of their deterrent role.

Russia's Prime Minister, Mikhail Kasyanov, said in a speech on 25 August that Russia wants to scale down the number of its nuclear weapons to "the minimally allowable point", but that as a great power it must maintain "the minimal level of nuclear arms necessary for Russia".

In a message to the annual conference of Pugwash, Russia's President has said that his government intends to "work on ensuring [the] implementation and full observation of START-II" and seeks "a speedy conclusion of START III".

(**AFP**, 23/7; **R**, 28/7, 28/9; **BBC**, 3/8; **Bergen Record**, 4/8; **AP**, 13/8, 2/9; **DT**, 13/8; **WP**, 13/8; **RFE/RL**, 28/8; **IT**, 2/10; **Jane's Intelligence Review**, 2/10)

- On 1 September, the President of the **United States** announced that he had decided not to authorise deployment of a national missile defence at this time. In a speech devoted exclusively to security issues, primarily that of national missile defence (NMD), the President said that with the information he now had, he could not conclude that there was enough confidence in the technology and the entire NMD system to move forward to deployment.

Mr. Clinton said that the flight-test programme that began last fall had shown that the different parts of the system could work together but that, while the technology for NMD was promising, the system as a whole was not yet proven. Future tests, he said, would tell whether NMD could work reliably under realistic conditions. The President noted that critical elements of the programme, such as the booster rocket for the missile interceptor, had yet to be tested and that there were questions about the ability of the system to deal with countermeasures.

Having said, at the beginning of his speech, that the ballistic missile threat was “real and growing”, and had given new urgency to the debate about national missile defences, he announced that he had asked the Secretary of Defense “to continue a robust program of development and testing”, adding that the testing programme was still in an early stage and more tests were needed against more challenging targets and more simulations, before the nation’s resources could be reasonably committed to deployment. According to Mr. Clinton, “[the] decision will not have a significant impact on the date the overall system could be deployed in the next administration, if the next president decides to go forward”.

The announcement received wide media coverage. As the date grew near when a presidential decision on NMD deployment was expected, and the issue promised to take on growing importance in the election campaign, discussions among the military, among politicians and in the public media had intensified. Interest peaked in the run-up to the third test of a missile interceptor, on 7 July. After the semi-success of October 1999 and the failure of January 2000, that event was seen as particularly important, as its outcome was expected to play a crucial role in the President’s decision. Reportedly, the test had been so conceived as to make success almost a foregone conclusion. Critics of the Pentagon’s testing policy had asserted that this amounted to a “dumbing down” of the exercise, to the point that any result threatened to lose its relevance. The Pentagon conceded that tests of this nature “do not mirror reality”, but it defended its decision to “walk before attempting to run”. Dr Philip Coyle, the Pentagon’s director of operation test and evaluation, also said the large balloon which accompanied the target missile in last October’s test had not been a realistic decoy. Dr Coyle said, however, that he had seen no evidence of impropriety in the conduct of the test programme as had been asserted by MIT professor Theodore Postol, a well-known weapons expert, who had claimed that the Pentagon’s testing plan had been rigged to hide inherent flaws in the NMD system, notably its inability to discriminate between an enemy warhead and decoys. In 1999, the Department of Justice had decided that there was insufficient evidence to pursue the charge brought by a former employee of the defence contractor TRW that it had falsely claimed that its ‘kill vehicle’ could discriminate between warheads and decoys. Nevertheless, the FBI announced recently that it had begun a “preliminary inquiry” into the subsequent charges of fraud and cover-up advanced against TRW by Postol and others. Its action followed a request to the director of the FBI by 53 members of Congress. At the same time, the GAO was examining the question whether DoD acted properly when it classified Postol’s report.

According to Dr Coyle, an operational defence capability had not been demonstrated “against the simplest of realistic, unsophisticated countermeasures”. Coyle also said that tests involving realistic decoys were not planned until September 2002 at the earliest. At the same time, according to press reports, there was no current programme for the development of better discrimination capabilities, and BMDO said that in 2002–07 it would need \$1 billion to develop those. Critics of the current NMD development programmes saw this as confirming Dr Postol’s allegations that so far the question of

discrimination had been neglected (see *Newsbrief* no. 50, pp. 22–23).

Before the July test, many experts had questioned whether the careful orchestration of the tests still left room for a rational judgment how useful the system would be under realistic circumstances. For one, they said, contrary to what would be the case in the event of a hostile missile attack, all conditions had been determined in advance, so that there could be no surprises. The timing and location of the launch of the target warhead were known, as were its speed and direction. The interceptor would be looking for a target proceeding along a familiar path and for a relatively short distance, and would therefore not need to travel as fast as when it would be aimed at a genuine intruder vehicle. Also, instead of being accompanied by several decoys, as could be expected in actual combat, the target vehicle had a single, large decoy balloon, which, some thought, was more likely to help the kill vehicle ‘acquire’ the target than lure it away. Perhaps most importantly, it was pointed out, there was to be only one target, rather than several, as might be expected in the real situation. Such advantages, according to Dr Philip Coyle, would “place significant limitations on the value of the test”. Many other experts also raised questions about the ability of the flight-test programme to verify consistent system performance.

Notwithstanding these precautions, the 7 July test failed. As reported, after the launch of the interceptor vehicle had been delayed by several hours for repairs, the launches of the target missile and of the ‘Exoatmospheric Kill Vehicle’ (EKV) went smoothly, but the EKV failed to separate from the second-stage booster rocket of the ‘Payload Launch Vehicle’ (PLV) and tumbled out of control before it could start on its interception course.

Reactions to the event varied widely. Critics of NMD’s technical approach took the failure as confirmation of the view that no matter how well the system might eventually be made to perform in precisely controlled tests, in practice it would be worthless. Some of the critics pointed to previous failures of tests of various interception systems that appeared to have occurred for a wide range of reasons, which, they said, demonstrated the vulnerability of any anti-ballistic missile system, even under testing conditions where every possible measure is taken to ensure a positive result. Dr Coyle, interviewed on television, said that while aspects of the programme had “been shown to be technologically feasible”, there were other aspects that had not been tried, “let alone demonstrated”.

Among problems identified in a report by the GAO issued shortly before the most recent test, mention was made of the interceptor’s booster, manufactured at the Boeing Aircraft Corp., of which development was then already more than eight months behind schedule. It was pointed out that this might mean that a decision to deploy the NMD system would have to be made without performance data for the booster, which, the Pentagon had said, was the component of the highest priority in the entire system. In August, Boeing announced it had removed the manager of its anti-missile programme; the Department of Defense (DoD) held back a \$20 million bonus Boeing had expected to earn. DoD confirmed that the cost of Boeing’s three-year management contract had grown by about \$125 million between January and March and that by the end of

June, it had increased by another \$194 million, raising the total contract cost to \$2.48 billion, or 14 per cent over the target cost of \$2.17 billion. The overrun was expected to grow further.

Missile experts said that the booster, now in the "assembly, test and integration phase" at Boeing, was expected to have greater acceleration and to cause more vibration than boosters so far used; they raised the question how the kill vehicle would react to these forces. Once any difficulties in that respect had been overcome, according to these experts, the new booster would have to be integrated into the system; this, reportedly, would require an adjustment in the NMD programme. One complicating factor in that context was said to be that, where in the usual nuclear missile the booster guides the warhead, in this case the 'warhead', i.e., the EKV, would guide the booster. Programme officials said that ground testing indicated that the EKV could be readily 'mated' with the new booster, but experts pointed to potential problems ahead and said that flight tests of the new booster, previously set at Spring 2001, would have to be postponed until at least the autumn. All through the summer, it was bruited in Washington that, in light of all these problems, Secretary Cohen would have to propose deferring the target date for NMD deployment until after 2005.

Supporters of NMD appeared undeterred by the July mishap. Lieutenant General Ronald Kadish, Director of the Ballistic Missile Defense Organization (BMDO) of DoD, said that the release of the interceptor vehicle by the booster had worked well in the past and had not been on his list of potential problems; he said that "...this was not something we thought would happen." Defense Department officials stated that the malfunction affected a routine procedure and did not concern the "much more innovative technology" involved in the intercept procedure. Observers on both sides of the debate agreed that the malfunction of the separation mechanism by itself said little about the programme's eventual chance of success. Some blamed the aging 'Minuteman II' booster rocket that functioned as a stand-in for the device that would be used eventually. The slower missile had been thought to have the advantage of giving the kill vehicle more time to detect the target. In any case, according to Jacob Gansler, DoD's Under Secretary for Acquisition and Technology, the major elements of the system had been tested sufficiently to say that its over-all design was fundamentally sound; a White House spokesman made a similar statement. BMDO officials said that all communications systems and sensors had performed as expected, and that the prototype X-band radar installations had been able to discriminate between the mock warhead and other objects, including debris from the improperly inflated decoy balloon. Vice President Gore said that the failure did not mean the idea of a limited NMD system was doomed. US Defense Secretary William Cohen, who had previously called the July test "(our) most demanding trial to date", said that its failure was not a major setback, and that, although "it would have been desirable to have two successful intercepts, it doesn't mean the technology is not there yet". He also said that, while he had not yet concluded that the system was "technically feasible", he believed that the problems encountered were "correctable". The news, received ten days after the failed test, that Iran had successfully tested a ballistic missile with a range of 900 miles (1,450 km), prompted the

Secretary to say that this underlined the need for the US to "research, develop and potentially [*sic*] deploy" a national defence system.

Already before the President's announcement, recent NMD developments had led to widely divergent reactions. While the two main parties seemed to agree that some form of ballistic-missile defence was needed, the party platforms as presented at the political conventions in August reflected opposing views on its nature, timing and extent. The Republican platform called for "robust missile defenses", to be deployed "based on an evaluation of the best available options at the earliest possible date". It blamed the Clinton Administration for having become "hopelessly entangled in its commitment to an obsolete treaty signed in 1972", and did not seem to be influenced by the failure of the test. In early October, a senior advisor to Republican presidential candidate George W. Bush said that the latter "wants to field an effective [NMD] as soon as possible". The Democratic Party platform called for a "limited national missile defense system" that would be compatible with the Anti-Ballistic Missile (ABM) Treaty of 1972. The senior advisor on foreign policy to Vice President Gore, the Democratic candidate, emphasised that the candidate was not prepared "to rush headlong into a [n NMD] system that hasn't been proven and tested". As reported, many Democrats were not unduly concerned by the problems the NMD programme was facing.

In July, a Democratic initiative introduced in the Senate for more realistic flight-testing, especially against countermeasures, and for an independent review team to assess the adequacy of the testing programme, was rejected by 52 to 48 votes. Following an acrimonious debate, the Republican majority added another \$1.9 billion to the US defence budget for NMD development, bringing the total amount budgeted for defence to \$310 billion, or \$4.5 billion more than the Administration had asked for. NMD advocates in both houses of the US Congress called for a redoubling of the development effort. Partisans of a more extensive system than the one promoted by the Administration blamed the latter for its timid support of the project and saw the failed test as an appropriate trigger of attempts to obtain additional funds for a more ambitious system. Some supporters of the limited NMD system envisaged by the White House expressed the view that the test failure should not prevent the President from keeping the process moving forward. Several proposed that even before a decision was made to deploy the system, a beginning should be made with the construction of the infrastructure for the system, by breaking ground on the Alaskan island of Shemya and laying rails for the placement of the new X-band radar installation to the concrete pad where it is to be sited; no actual construction would take place, however. Legal advisers to the government were cited to support the contention that it would be possible to pour the concrete for the pad where the radar installation was to be sited, and make all site preparations up to the point where the rails for the facility were laid, without violating the 1972 ABM Treaty. This, reportedly, was the view embraced by Defense Secretary Cohen. One argument of those advocating early action was that anything the incumbent President might decide in the last months of his term could be undone by his successor. Government lawyers working in the Department of State and the National Security Council were said to reject the idea of basic construction work and

said that any action that reflected the intention to depart from the ABM Treaty would be a breach of the Treaty. That was said also to have been an argument used by the Reagan Administration when it opposed construction of a Soviet radar installation at Krasnoyarsk. The middle ground seemed to be taken by those who saw the start of concrete pouring as the point where a violation would begin. Those advisers noted that since the Treaty requires six months notice of withdrawal, and concrete pouring would have to be done in May and June, notice would have to be given in December, i.e., during the last month of President Clinton's term. In the end, in not deciding that site preparations should start, the President was understood to have left also this decision to his successor.

Many politicians and some senior military officers, from among both supporters and opponents, had urged the President to leave the decision to the next Administration. Some of his political allies were said to have used the argument — cited in the President's speech — that the decision should be put off because there were no guarantees that NMD was technically feasible or would enhance national security. On 25 July, a letter to the President from 31 Democratic Senators, citing "growing skepticism" in the scientific community about the system's technical feasibility, had urged him to defer any steps towards deploying NMD at this time. The letter claimed that the recent failure of a flight test "demonstrates that it is too early to know whether deploying a cost-effective NMD system will be possible in the near future and whether it will provide real protection against the potential threat from emerging nuclear powers". It expressed "fear that a decision to deploy would imperil, not improve, ... national security". In a Congressional hearing in September, however, Lt. Gen. Kadish said that he was optimistic that further testing would show that NMD could be made to work. Despite setbacks and delays in development and testing he said, "93 percent" of the system's "critical engagement functions" had been demonstrated to work properly, and while the last two tests were disappointments, they were "not evidence of insurmountable technological barriers".

Opponents of NMD had also expressed doubt both about the urgency and the nature of the threat from "rogue states", and asserted that the disadvantages of NMD outweighed the presumed advantages. Some also thought that the decision should be deferred until more was known about the DPRK's apparent willingness to stop its long-range missile development in favour of cooperation with other states. Reportedly, until President Clinton announced his decision, few politicians, including strong opponents of NMD, had been inclined to express their doubts in public lest in the impending nationwide elections they lose the votes of those inclined to take NMD as a panacea of national security. Since the President's statement, however, a growing number of Democrats appeared ready to express negative views on NMD.

In the assumption that the next President might be a Republican who would opt for a more ambitious form of missile defence than advocated by President Clinton, many Republican members of the US Congress had also expressed preference for a postponement of the decision. Speaking before a Senate committee, Defense Secretary Cohen, referring to the possibility of a Republican election victory, warned against locking the next President into a

particular system, when he had already expressed an interest in a more robust version. Cohen conceded that the failure of the latest test called into question the realism of 2005 as the target date for deployment of the NMD system, although, he said, it was too early to give up on it. It had been widely assumed in Washington that the Defense Secretary had been prepared to recommend that President Clinton should authorise taking the first step towards deployment of NMD by starting initial construction work in Alaska. On 7 August, however, Secretary Cohen said that he would make no recommendation about the future of the programme until findings had been analysed.

He gave no specific reasons for the postponement, but it was known that there was no consensus among military officials about such items as the costs of the NMD system, the work schedule, and the need for new tests. BMDO officials told the press that they did not wish to set a new test date until they had thoroughly analysed the events of 8 July and had time to make technical adjustments, and it was widely assumed that the next intercept test, which had already been postponed until November, would be put off once again, until some time early next year.

Meanwhile, elements of the NMD system were being tested. In September, a ground-based prototype radar was tested on its ability to distinguish among objects released in space by a Minuteman ballistic missile, reportedly with positive results. The exercise was said to have included two non-intercept flight tests in combination with computer-simulated operations which, according to BMDO, performed successfully. BMDO has announced that in early 2001, it is planning a multi-week integrated ground test of hardware and software under development, to assess how the various elements of the system are being integrated.

The President's decision came in the midst of a heated debate about the likely date when the first 20 anti-ballistic missiles could be deployed. DoD, reportedly concerned that the start of site preparation for the Alaska radar facility might slip by a year, set 7 September as the deadline for technical and cost proposals by prospective contractors. Secretary Cohen, as was disclosed later, had urged the President to adopt the "limited green light" option by going forward immediately with construction of the Alaska radar site. The Joint Chiefs of Staff were thought to be interested primarily in TMD, to protect US forces abroad, and feared that a costly NMD system would come at the expense of conventional arms needs. President Clinton himself was said to be unenthusiastic about the prospects of NMD, and reluctant to jeopardise the ABM Treaty and with it possibly other elements of the international security structure, especially after the adamant refusal of Russia's President Putin to entertain proposals for relatively minor adjustments to the Treaty. His main motivation for supporting a limited NMD system, it was reported, was the wish to protect the Vice-President against Republican accusations that the White House was weak on defence.

In Washington, Conservative Republicans vigorously condemned Mr Clinton's decision as "yet another example of ... missed opportunities" (Senate Majority Leader Trent Lott); "evidence of failed leadership on national security issues" (Presidential candidate George W. Bush); "lack of support for the defence of the American people" (Rep.

Curt Weldon); “grossly irresponsible” (Sen. James Inhofe); “a capstone to a string of poor decisions that have left us defenseless against a growing threat” (Sen. Jon Kyl). A 173-page report by Senator Cochran, Chairman, of the Subcommittee on International Security, Proliferation and Federal Services, Senate Committee on Governmental Affairs, spoke of the “chronic under-funding of ballistic missile defense programs” and claimed that, in its “emphasis on arms control over military capability”, the Clinton Administration had refused to consider seriously any NMD technologies “other than those most superficially compatible with the ABM Treaty”. There were a few Republican politicians who saw grounds not to “rush to meet arbitrary decision deadlines”, and greeted the decision for that reason (Sen. Chuck Hagel).

Democrats generally welcomed “the right decision” (Sen. Byron Dorgan); “[It] allows time... to be more certain that these technologies actually work together... and allows for more clarity about the costs of the system” (Vice President Gore). Some Democrats regretted that more “taxpayer dollars” would be wasted on continuing research and development (Rep. Kucinich). While the President did not stress the consideration of cost, the Vice President underlined it repeatedly. According to reports from early September, NMD development will cost 20 per cent over current projections, because of schedule delays, technical problems and the need for more extensive testing. The Pentagon has conceded that costs will increase, but that it does not yet have “a clear figure”. Beyond accusing his opponent of stinginess in his approach to missile defence, Republican candidate Bush has refused to be specific about the system he would propose to build or the funds he would be willing to spend on it. Polls indicate that the issue currently does not figure prominently in the election campaign, although at least one poll indicates that 58 per cent of the US electorate support the President’s decision not to proceed with NMD at this stage.

Most daily newspapers welcomed the President’s decision; positive reactions came from prominent newspapers in major cities around the US. The *Wall Street Journal* and the *Washington Times* sharply criticised it – the former reflected conservatives’ views that the Administration’s NMD programme had been designed to make deployment as “difficult and as controversial as possible” and said “some kind of system” should be deployed as soon as possible; the latter called for a president who would “comply with the will of Congress and order deployment... at the earliest possible date”. While most commentators stress that the decision does not stand in the way of the further development of the NMD system, albeit that deployment is now not likely before 2006 or 2007 at the earliest, conservative analysts have expressed concern that the President’s decision may have killed the momentum that had been built up over the years.

A number of European states, among them France, Germany and the UK, expressed relief at the President’s decision to defer deployment of NMD. The British Foreign Minister spoke of a decision that had taken “careful account of the views of the [US] allies...” and his French colleague said it was “wise and reasonable”. Russian officials expressed satisfaction that the Kremlin’s diplomatic campaign seemed to have contributed;

President Putin said that the US President’s decision was “an act of careful consideration and responsibility” which would help strengthen international strategic stability. He warned that the decision did not necessarily mean that there was consensus on the ABM Treaty, however. Chinese comments, too, showed relief at the decision but President Jiang Zemin said he would use the UN’s September Summit to urge Washington to scrap NMD plans altogether.

US Defense Secretary Cohen, speaking to the Senate in July, had underlined that if the US wished to go ahead with NMD, it would have to persuade its NATO allies to drop their objections. He mentioned Denmark, which would have to accept the upgrading of the radar installation at Thule, Greenland, and the UK, where the radar facility at Fylingdales, in Yorkshire, would also have to undergo considerable enhancement. Cohen was quoted as saying that the allies’ support could not be obtained unless one at least tried to work things out with Russia. In February 2000, the government of Denmark had stated that “[t]he government continues to desire that use of the Thule Radar does not contravene international agreements in force”. Consultations with Denmark on the use of the Thule Radar appeared to have been affected by the recent disclosure that an American bomber, which crashed in January 1968 off the coast of Greenland, might still contain an unexploded hydrogen bomb. In August 1968, the US assured the Danish government that all weapons on board the aircraft had been accounted for, but it did not say whether they had all been recovered. The population of Greenland were said to be generally doubtful about the idea of providing facilities for NMD. After a meeting with representatives of Denmark and the US in late August, an official from Greenland was quoted as saying that he saw nothing wrong in the American desire to develop a defensive system; when asked about his reaction to a request about making the radar station at Thule available as part of that system, he said that this would depend on “a series of other issues”; anyway, he said, a direct request from the US was not immediately expected.

Also in this context, a senior Norwegian intelligence official was quoted as saying that if the US wished to use the radar installation at Vardo, in northern Norway, for a national missile defence scheme, it would have to renegotiate the pertinent bilateral agreement. He also said that since Norway was “not interested in missile defence either military nor politically”, the chances of changing the agreement were small. Amidst rumours that the UK government was willing to have the radar facilities at the Fylingdales air base upgraded for the purpose, the Foreign Affairs Committee of the British House of Commons expressed serious misgivings about NMD and the use of Fylingdales for the purpose. The Committee urged the government to express to Washington its skepticism about the matter. The UK Ministry of Defence, however, reportedly eager to maintain close cooperation with the US, ordered a feasibility study of a possible British contribution to the system. The UK Defence Secretary said: “Unless and until we receive a specific request... there is little purpose in taking a decision”. The opposition Conservative Party, in early October, came out in favour of cooperation with the US on NMD. [There has been a report that the Pentagon has been reassessing alternatives to the use of Fylingdales. One option under consideration

appears to be to install NMD-type radar on a commercial container ship — Ed.]

Misgivings were voiced also at the G-8 summit meeting in Okinawa, in July, where in particular France's President Chirac, Germany's Chancellor Schröder and Japan's Prime Minister Mori were said to have expressed reservations about the US plans. Many of America's other allies have also expressed concern. Among their arguments are the fear that NMD would trigger a new arms race; that it would protect only the US while areas outside, notably Europe, would remain vulnerable to missile attack and might be targeted instead by states deterred from attacking the US; that the project would needlessly sacrifice the ABM Treaty and with it, possibly, many of the arms-limitation measures adopted in the past several decades; and that there is, as yet, no credible threat justifying its deployment.

Those opposed to NMD as a potential threat to the current international nuclear balance saw their arguments strengthened in August by the report that a new American national intelligence estimate entitled "Foreign Responses to U.S. National Missile Defense Deployment" had reaffirmed that the deployment of a limited NMD system could prompt China to expand its nuclear arsenal by a factor of ten, and might prompt Russia to 'MIRV' the warheads carried by its 'Topol-M' missile.

In the face of warnings about foreign doubts, Senator John Warner, Chairman of the Armed Services Committee, said in July that Russia and other nations must [*sic*] understand that US policy now called for the eventual deployment of a system to protect the country. Warner recalled that last year's law required the Pentagon to deploy a national missile defence as soon as technologically possible, and said that this amounted to a decision to go ahead with missile defence; the only question was how soon.

China and the Russian Federation have all along remained adamant in their opposition to NMD; the Russian military dismiss the threats from what in American parlance used to be 'rogue states', as a valid justification for deployment of the system. Russian military experts claim that since offensive weapons can easily overcome a missile shield, deployment of NMD would lead to a new arms race. China, which is thought to have about 20 deployable strategic ballistic missiles, is already known to consider equipping those with multiple warheads, and is said to be gearing up to increase its strategic missile force. Many of America's allies have expressed objections. Among their arguments are the fear that NMD would trigger a new arms race; that it would protect only the US while areas outside, notably Europe, would remain vulnerable to missile attack and might be targeted instead by states deterred from attacking the US; that the project would needlessly sacrifice the ABM Treaty and with it, possibly, many of the arms-limitation measures adopted in the past several decades; and that there is, as yet, no credible threat justifying its deployment. The topic was raised at the G-8 meeting, where, besides Russia's President Putin, France's President Chirac, Germany's Chancellor Schröder and Japan's Prime Minister Mori were reported to have expressed reservations about the US plans for NMD. An exception among US allies was Australia, which, said that it was prepared to make its radar installations available for incorporation into the NMD

infrastructure and was ready to support NMD tests at a US electronic surveillance base in Central Australia. It was also rumoured that the UK was willing to have the Fylingdales radar upgraded for the purpose.

China was said to have raised the issue of NMD at July's ASEAN meeting in Bangkok. The fact that President Jiang Zemin did not mention it at the UN Millennium Summit in September was seen as a consequence of President Clinton's announcement that he would not decide on the matter. However, in the Conference on Disarmament in Geneva, the Chinese representative said in September that President Clinton's decision merely implied a postponement of NMD, and that the threat to international relations remained. The US representative was reported to have "angrily" rejected this "allegation".

A number of experts in the field have taken the failure of the 7 July test as an additional argument for the development of a 'boost-phase' intercept system (BPI) which, they claim, would be simpler and cheaper to deploy and more assured of success than NMD, while it would necessitate more modest changes in the ABM Treaty. Russia's President Putin, who has refused to contemplate major changes to the ABM Treaty, and who discussed the issue once again with President Clinton, in the margin of the July meeting of the G-8 in Okinawa, has suggested cooperation with the US and European states on a BPI system. Senior US officials have said, however, that while they would not exclude such cooperation, BPI could only be a complement to NMD, but could not replace it.

The President's decision has focused media attention on alternatives, notably a sea-based system that might either be conceived directly on a nationwide scale or be developed from the US Navy's Theater-Wide System (NTW) on which work is already underway. Several anti-missile missiles are under development for the Navy, which over the next two years is said to plan about 50 flight tests under various programmes, including NTW. Most of the Navy's missiles are said to be intended as a defence against medium-range missiles, which fly lower and more slowly than the long-range weapons an opponent might launch against the US mainland. Experts point out that to defend against the latter, bigger and faster interceptors would have to be developed even if, as many advocates of an extended Navy role propose, they are to be applied in the boost phase. Some of the supporters of a strengthened role of the Navy also suggest that an X-band radar installation similar to that which was envisaged for NMD to be constructed in Alaska could be placed on a cargo ship at a cost of \$500 million, which would in turn extend the capability of the system.

Reportedly, in July the first flight-test of a Raytheon missile that was to be part of the US Navy's sea-based Theater-Wide Anti-Missile Defense system failed. The test was considered to have relevance for the development of a boost-phase defence system.

Another alternative among several theatre-wide missile defence systems is the 'Airborne Laser Program' (ALP), in which lasers mounted on converted commercial aircraft would be aimed at enemy missiles in the boost phase. Work is under way at a Boeing facility on the conversion of a Boeing 747-400 cargo plane into an 'Airborne Laser'

(ABL) platform. The US Air Force has praised Boeing for its "superb" work in this regard.

In late August, the US Army Space and Missile Defense Command announced that a Tactical High Energy Laser (THEL) device had shot down two Russian-built Katyusha rockets. Earlier, it had shot down a single rocket of the same make. THEL is said to be "tentatively" scheduled for delivery to Israel. Meanwhile, that country has announced that the 'Arrow' II anti-ballistic missile system (which it is said to have developed with US assistance) has been successfully tested and is now operational. Three US companies, Boeing, Lockheed-Martin, and Raytheon are said to be competing for the manufacturing contract of the missile and for the right to market it in third countries. India, Japan, the RoK and Taiwan are all thought to be interested.

Commentators in Washington recall that President Putin has suggested cooperating with the US on a BPI system that would not violate the ABM Treaty, but it might do so if it were expanded to protect the whole of the United States. According to the *New York Times*, there is disagreement on this point between the US Department of State, which is opposed to the conversion of theatre-wide defences into national defences, and the Department of Defense, which holds that in principle, all systems can be used for both theatre and national missile defence.

The President's decision is said to have triggered second thoughts about the need to pursue the development of various NMD sub-systems. One project reportedly considered for termination is the development of a 'Space Based Infrared' low-orbit satellite system (SBIRS) for tracking missiles. SBIRS was considered essential for NMD and its development has already absorbed hundreds of millions of dollars. Supposedly it would be of particular importance if no European ground-based radar facilities were made available.

Much is made in the American press of the apparent success of the Patriot Advanced Capability short-range anti-ballistic missile weapon (PAC-3), which is said to have made a fifth successful interception of a missile in flight. The two most recent tests apparently involved cruise missile targets. Reportedly, the cost of the PAC-3 system has risen by 77 per cent over the budget estimate, and the cost of each missile by somewhat over 250 per cent.

(*Bergens Tidende*, 6/6; *WT*, 2/7, 10/7, 11/7, 14/7, 17/7, 6/9; *LAT*, 5/7, 8/7, 12/7, 23/7, 9/8, 10/8, 2/9, 6/9; *IHT*, 6/7, 7/7, 19/7, 3/8, 7/9, 19/9, 22/9; *DT*, 6/7, 3/8, 7/8; *LT*, 6/7, 10/7, 21/7; *NYT*, 6-10/7, 13-15/7, 18/7, 19/7, 22/7, 26/7, 8/8, 10/8, 15/8, 30/8, 1-4/9, 15/9, 18/9, 29/9; *WP*, 6/7, 7/7, 9/7, 14/7, 19/7, 22/7, 26/7, 6/8, 9/8, 3/9, 5/9, 7/9, 21/9; *Boston Globe*, 7/7, 27/7, 9/8; *CSM*, 7/7, 14/7, 5/9, 21/9; *Minneapolis Star Tribune*, 7/7; *USA Today*, 7/7; *AP*, 8/7, 13/7, 18/7, 21/7, 25/7, 8/8, 23/8, 1/9, 2/9, 14/9, 21/9; *Bloomberg News*, 8/7, 10/7, 13/7, 19/7, 3/8, 8/8, 11/8, 25/8, 29/8, 30/8, 1/9, 7/9, 11/9; *Defense Department*, 8/7, 7/8; *PBS Newshour*, 9/7; *FT* [Europe], 9/7; *Defense News*, 10/7, 21/8, 18/9; *G*, 10/7; *Time*, 10/7, 11/9; *Toronto Star*, 10/7; *WSJ*, 10/7, 11/7, 7/8, 6/9, 7/9; *Aerospace Daily*, 11/7, 27/7, 23/8, 8/9; *China Daily*, 11/7; *Chicago Tribune*, 11/7, 6/9; *Defense Daily*, 11/7; *Newsday*, 11/7; *Philadelphia Inquirer*, 11/7;

Congressional Record (S.6558), 12/7; *San Francisco Chronicle*, 11/7; *Inside Missile Defense*, 12/7, 6/9, 20/9; *NBC News*, 16/7; *Aviation Week & Space Technology*, 17/7; *CNN on-line*, 17/7; *Sydney Morning Herald*, 17/7, 18/7, 27/7; *AFP*, 18/7, 21/7, 3/8; *Baltimore Sun*, 18/7, 27/7, 7/9, 10/9; *Honolulu Star Bulletin*, 18/7; *R*, 18/7, 8/8, 13/8, 22/8, 30/8-1/9, 6/9, 14/9, 3/10; *Defense Daily*, 19/7, 25/7, 3/8; *IT*, 21/7; *Business Week*, 24/7; *Japan Times*, 25/7; *Defense Week*, 31/7, 7/8, 21/8, 18/9; *Fort Worth Star-Telegram*, 31/7, 9/8; *US Army Program Executive Office for Air and Missile Defense*, 2/8; *St. Louis Post-Dispatch*, 25/8; *ABC News*, 28/8; *Jerusalem Post*, 31/8; *ACT*, July/August; *Dallas Morning News*, 2/9; *USA Today*, 5/9; *Report from Subcommittee on International Security, US Senate Committee on Governmental Affairs: Stubborn Things – A Decade of Facts About Ballistic Missiles*, 6/9; *Fort Worth Star Telegram*, 7/9; *Norfolk Virginian-Pilot*, 13/9; *Boeing Press Release*, 19/9; *Council for a Livable World Education Fund*, 19/9; *BMDO*, 28/9; *Department of State*, 29/9; *Aerospace Digest*, 2/10. See also *Newsbrief* no. 50, of which pages 16-24 dealt with the subject. That issue went to press on 7 July, hours before the last NMD test took place.)

- In September, **NATO** was expected to award contracts to two separate industrial teams, for 18-month feasibility studies on TMD for Europe. As reported, the studies will cover, among other aspects, technological feasibility, risk factors, time scale, and costs. The intention is to determine "an appropriate architecture for a layered missile defence system" that would integrate upper-tier and lower-tier technologies. It would provide a standard for the national procurement of future systems, which might, it is reported, involve a land-based theatre high-altitude area defence system (THAAD) or a sea-based Navy theatre-wide (NTW) system. TMD would be limited to a range of 1,875 miles (3,000 kms) and would serve to protect military forces, rather than for national defence. It would not violate ABM. Observers note that currently TMD must rely on US systems in development and on US companies, which would cooperate with European companies but, as they say, the situation is complicated by the fact that US export regulations prevent detailed sharing of weapons technology. (*NATO Notes*, 28/7)

h. Proliferation-Related Developments

- In the aftermath of the June summit meeting between the leaders of the **Democratic People's Republic of Korea** (DPRK) and the Republic of Korea (RoK), the foreign ministers of the two countries met for the first time at the Bangkok meeting of the Asian Regional Forum (ARF) of the Association of South East Asian Nations (ASEAN). They were reported to have discussed the implementation of the understandings reached at the summit, and publicly pledged to cooperate more closely and push ahead with reconciliation. At a second ministerial meeting, held in late July in Seoul, agreement in principle was said to have been reached to reconnect a major rail link, the Kyongui Railway, between Seoul in the RoK and Shinuiju in the DPRK, and to cooperate on the reconstruction of the line which, RoK officials say, could be operational within a year, depending on the speed with which about 100,000 landmines can be removed from the section of the line that goes through the Demilitarised Zone (DMZ), and on progress in rebuilding the 8 miles (12 km) of track involved. A four-lane highway is also planned, to run

parallel to the railway. Reportedly, the RoK is preparing to detach a 2,000-strong force for its side of this work, along with advanced foreign equipment. It is expected that the DPRK will also send mine-clearing troops. China has offered both Koreas its help in clearing the mines. Reconstruction of the railroad was officially inaugurated on 18 September.

Russia is said to take great interest in the restoration of the rail link between the two Korean states. President Putin has urged Japan to participate in the project, which, he is quoted as having said, should lead to rail communications being established with China and Russia, and could eventually link up with the Trans Siberian Railway.

In a joint press release after July's meeting, the parties announced that they would continue ministerial talks on the practical implementation of the Joint Declaration of 15 June, and had undertaken to cooperate in international matters of joint interest. A further ministerial-level meeting began on 29 August in Pyongyang. Reportedly, several measures were adopted there to improve relations and reduce tensions between the two states, such as an increase in the number of family reunions, facilitating investments, and avoiding double taxation.

The Defence Ministers of the two Korean states met in September in Cheju, South Korea, amidst wide press coverage. The meeting was thought to have been largely ceremonial. It seems that the two sides disagreed on the agenda, which the North supposedly wanted to restrict to tasks immediately ahead, notably the de-mining of the rail track in the DMZ, while the South was said to seek discussion of confidence-building measures, such as a military hot-line, prior notification of exercises and troop movements, and exchanges of observers. The Ministers set up a working-level committee to deal with problems related to the clearance of land mines in the NMZ, and agreed to hold another meeting in November, in the DPRK.

Another topic that attracted great media interest was the announcement in South Korea that the North's leader, Kim Jong-il would visit there in the Spring of 2001. There was a report in the South Korean press that the two leaders would discuss "a new peace mechanism on the Korean peninsula".

The Red Cross organisations of both Korean states have been engaged in the preparation of the first temporary reunions of families separated by the Korean War, and are currently said to be planning several further series. At the first four-day reunion, which started on 15 August, 100 displaced family members from each country were allowed to meet relatives at Pyongyang or Seoul; over 76,000 persons had submitted their candidature for possible reunions. Each side put up 200 candidates, of whom half were selected, either by random computerised ballot in the South, or through official selection, in the North. The August event, carefully orchestrated and strictly supervised, went off without reported incident. There has been talk of selecting a permanent meeting place, possibly inside the DMZ. Press reports were unclear whether the numbers involved each time would be substantially greater.

In mid-August, the RoK and the DPRK reactivated the liaison offices at the border village of Panmunjom. Two cross-border telephone lines were reconnected. The two sides also established a joint economic consultation body to work out concrete measures for various business projects. Another sign of reconciliation was seen in the fact that at the opening of the Olympic games in Sydney, teams from the two Koreas marched together behind a single 'unification' flag. It has been pointed out in the Asian press, however, that a similar signal was given in 1991, when the two Koreas formed a single team for the world table tennis championships.

In a move to expand its relations with other countries, the DPRK has held talks with the Philippines. In late September, Canada and the DPRK discussed the normalisation of their relations and the possibility of opening resident missions in each other's capitals. Also in September, a delegation from New Zealand was in Pyongyang for the same purpose and the North's Foreign Minister had talks in Rome both with the Italian government and with the Food and Agriculture Organization (FAO). The DPRK is reported to have written to nine European countries — Belgium, France, Germany, Greece, Ireland, Luxembourg, the Netherlands, Spain, and the UK — proposing to establish diplomatic relations. France is supposed to have said that it would consider relations with the DPRK on the basis of the development of the human rights situation there and commitments on nuclear non-proliferation. The EU President has said that the DPRK's movement towards greater openness and better relations with the outside world is irreversible, but the European Commissioner for External Affairs has warned that there are still "many steps" Pyongyang must take before it is generally accepted as a credible member of the international community. Japan is said to have used the Bangkok meeting to agree with the DPRK on the resumption of "normalisation talks" as well as on a meeting between foreign ministers. Ahead of those meetings, it is understood to have promised to send 150,000 tons of rice to the North, to be distributed by the World Food Program (WFP). A senior Japanese foreign ministry official who traveled through the DPRK, to check if the rice aid Japan delivered last April had been distributed to its intended recipients, has said he believed this was the case. In August, Tokyo said it was planning to ship additional quantities of rice to the North.

On 22 and 24 August, delegations from the DPRK and Japan met in Tokyo and in a resort nearby. Reportedly the DPRK delegation held to its previous position that no normalisation of relations was possible until Japan apologised and paid compensation for its lengthy occupation of the Korean Peninsula. Japan raised the issue of its nationals supposedly abducted by DPRK agents and although there was said to have been a "deepening" of mutual understanding, it appears that there was no progress on major issues holding up the establishment of normal relations. Shortly after the August meeting, Pyongyang accused Japan of building up its military capabilities in preparation for an invasion of Korea; it has also said that if Tokyo kept insisting that the DPRK had abducted Japanese citizens, it would not care whether relations with Japan improved or not. A next round of talks is expected to be held in October, possibly in Beijing.

US Secretary of State Madeline Albright took the opportunity of the Bangkok meeting of ASEAN to have an encounter with North Korea's Foreign Minister Paek Nam-sun that was said to be the highest-level meeting the DPRK and the US have had for decennia. Dr Albright called the event "a symbolically historic step away from the sterility and hostility of the past", but said she had learned little about the DPRK's plans to curb its missile programme.

At a bilateral meeting in Kuala Lumpur, Malaysia, on 11 and 12 July (see *Newsbrief* no. 50, p. 26) the US failed to persuade the DPRK to cease developing long-range missiles and to end its missile sales abroad. Reportedly, the DPRK refused to undertake that it would stop developing missiles for its own defence since it was threatened by thousands of American missiles. Regarding the export of missile technology, the North is said once again to have demanded compensation of \$1 million a year in exchange for a halt of missile-technology exports, while Washington responded that it would not reward the North for ending activities it should not conduct in the first place. There has been a report in the American press that some missile experts assume that the DPRK's missile programme receives substantial support from Russian companies and individual experts. According to the report, there is no evidence that the Russian government is involved in these deals. US intelligence sources are said to be skeptical about these allegations.

During a recent visit to Pyongyang, Russia's President discussed the question of the DPRK's development of long-range missiles. As reported principally in Russian publications, the DPRK's Leader, Kim Jong-il, told the President that he would shut down the programme if other nations provided the DPRK with rockets to launch satellites into space for peaceful exploration purposes. Putin was said to have commented that Russia would not be able to do this alone and that China, Japan, the RoK and the US should "support this process". He was quoted as saying further that nations which asserted that the DPRK posed a threat to them should be expected to support the project. The matter was raised at the Okinawa meeting of the G-8, where several heads of delegation apparently said they saw merit in the proposal. In Washington, officials acknowledged that the offer was potentially significant, but said that no arrangement could be accepted that would mean putting American missile technology in North Korean hands. They said they would be willing to explore the possibility of having the North's satellites launched elsewhere, including in the US. The US Defense Department spokesman explained that "developing space-launch capability is frequently a way to move toward ICBM capability. So we are in favor [*sic*] of helping countries get into space without developing that capability". According to Russia's Foreign Minister, the DPRK would be ready to abandon its current missile programme if it could launch one or two satellites for scientific purposes each year from the territory and with the assistance of other countries. It was later also reported from Moscow that the DPRK's leader had written to Russia's President, affirming his willingness to drop the intercontinental missile programme if other countries would launch two or three North Korean satellites a year, at their expense. US officials said that Washington had not been notified of this letter and could not comment. In the US — generally seen as the country at which the

proposal is aimed in the first place — the move was compared with the way the 'Agreed Framework' was conceived to cap the North's plutonium production capability, by providing less proliferation-prone power reactors. US officials said they were unable to judge the proposal without more information. It was recognised in Washington that the proposal might have been meant to influence the President's decision on NMD deployment. Confirmation of this view was found in Pyongyang's anger at the pledge of the Republican Party at its Philadelphia convention, to push for a missile shield.

Amidst this speculation, the DPRK's leader, Kim Jong-il, reportedly told a group of South Korean media representatives that he had been joking when he said to the Russian President that his country would halt its missile development programme if other countries would launch its scientific satellites. According to the same reports, he also told the South Korean group that the DPRK had raised cash by exporting missiles to Iran and Syria and that it could not afford to stop doing so unless the US was willing to pay compensation. The apparent retraction prompted American critics of the Clinton Administration's conciliatory attitude to the DPRK, to claim that the US and some of its allies were being taken in by a campaign of deliberate deception on the part of Pyongyang. At the same time, prominence was given in Washington to a report that, according to the US National Security Agency, Russian and Uzbekistan firms were selling Pyongyang missile technology and components, including gyroscopes, connectors and relays. Some Russian media made low-key references to an apparent misunderstanding by President Putin of the Northern Leader's "joke", but in the RoK, officials have denied that what Chairman Kim has said was either a joke or a passing remark. In the US, the State Department spokesman has said that both Moscow and Washington are taking the proposal seriously and believe it should be explored directly with Pyongyang.

Apart from the missile issue — which became more acute in late September, following reports that Israeli anti-missile radar had detected a test in Syria of a medium-range (type-D) 'Scud' missile that would have come from the DPRK, and that Libya had taken delivery of a consignment of Nodong missile components of the same origin — the US has discussed with the DPRK the steps it would have to take before Washington removes it from the American list of states considered to be sponsors of international terrorism. The first discussion, in early August, was reported to have been productive and a month later a follow-up meeting was held in New York. That meeting lasted five days and was described by a State Department spokesman as "very positive". It is also understood as having dealt with the issue of nuclear safeguards in the DPRK.

The US and the RoK have had one of their periodic Security Consultative Meetings, at which the role and status of US forces in the South was discussed, and which ended with the reaffirmation of the "traditional military alliance". Senior US defence officials expressed the conviction that any withdrawal of American forces would leave a "power vacuum". A warning by the US Secretary of Defense that the DPRK continued to pose a military threat led to an angry reaction from Pyongyang. A Pentagon report of mid-September described the large conventional forces deployed along the DMZ, and said

that, although the DPRK was not testing its missiles, under a promise made to the US last year, those missiles, along with the North's chemical-weapon capability, remained "a threat to South Korea, the U.S. and other countries".

In the meeting with media executives from the South that is referred to above, the Northern Leader, Kim Jong-il, is quoted as having said that he would seek relations with the US as soon as it removed his country from the list of terrorism-sponsoring states. Reacting to this statement, US officials have said that the DPRK would have to take the appropriate steps before the offer could be considered; a State Department spokesman said that the US was prepared to improve relations with Pyongyang as it addresses the areas of American concern. The American media see a positive signal in repeated reports that Northern officials, including Kim Jong-il himself, seem to have withdrawn their objections to the continuing presence of US armed forces in South Korea. At the time this issue of the *Newsbrief* went to press, the DPRK was preparing for the visit of Kim Jong-il's First Deputy to Washington on 9 October. There was also a report that US Secretary of State Albright had said that before leaving office she hoped to visit the North.

Reports seem to indicate that the work of the Korean Peninsula Energy Development Organization (KEDO) has not proceeded without problems. By early October, the DPRK labourers who, in late 1999, were pulled off the construction site of the two light-water reactors, had still not returned. The price of the 500,000 tons of heavy fuel oil that the US is bound to supply to the DPRK this year had risen steeply, and Washington was said to face problems raising the additional \$40 million it needed for the deliveries it was due to make by November. Observers in Washington did not believe that the current Congress would agree to provide more money, and none of America's allies seems willing to make commitments in this respect beyond those already made.

The DPRK's relations with the US are feared to have been put to a further test when on 5 September American airline security officials in Frankfurt submitted a diplomatic delegation on its way from Pyongyang to the UN's Millennium Summit at New York to a thorough search of their luggage as well as their persons. The delegation comprised the DPRK's nominal head of state, who took this as an encroachment on the sovereignty of his country and a deliberate insult, and turned back to Pyongyang in protest. As a result, a number of meetings with other heads of state planned to be held during the Summit, could not take place. Partly, it is said, because of pressure from other states, the RoK in particular, the US Secretary of State wrote to Pyongyang expressing regrets and explaining the circumstances for which, reportedly, the US government blamed airline personnel. It was noted, however, that the latter apparently had not been made aware of the nature of the delegation and thus treated its members the way they are accustomed to handle passengers from "states of concern". Pyongyang said it had noted the apology [*sic*], and repeated that the incident had "undermined severely" the DPRK's sovereignty, and said that the US should take responsibility.

In the US Congress, Republican representative Benjamin Gilman, Chairman of the House Committee on International Relations, has introduced legislation under

which economic sanctions on the DPRK would be re-imposed if Pyongyang provides missiles or missile technology to a state sponsor of terrorism, and also if it violates its missile testing moratorium. Press reports from Washington speak of conflicting assessments of Pyongyang's nuclear ambitions. Military intelligence sources apparently tend to suspect the DPRK of having produced enough plutonium for at least ten nuclear warheads, while the US State Department is said to be more sanguine about the situation. Recent intelligence reports claiming that the DPRK has built a storage facility for nuclear warheads and that it has up to ten new installations where work is done on a covert nuclear programme, appear to be taken less seriously by the State Department, which is keen in the first place on improving relations with Pyongyang, and which was said to be influenced also by the fact that repeated inspections of underground sites at Kumchangri, where intelligence reports had alleged secret nuclear activity was taking place, found nothing but empty tunnels. The Administration is said to discount allegations that it had given the North so much advance warning that the latter had time to remove incriminating evidence, since it is thought unlikely that the kind of installations supposedly involved could have been removed that quickly, or that, if they had ever been at the site, they would not have left traces.

A report issued in the US on 27 July, by the House Policy Committee of the US Congress, sets out what it sees as the facts of the DPRK case and comes to the conclusion that with the provision of light-water reactors under the 'Agreed Framework', the "Clinton-Gore administration" is enabling the DPRK to "...accumulate plutonium in spent fuel at the rate of about 17,300 oz. per year,—enough to produce 65 nuclear bombs a year." The Committee is chaired by Republican Representative Christopher Cox, supposedly an expert in such matters who, in 1998, was Chairman of the Select Committee that produced a voluminous report accusing China of stealing large amounts of classified US information on nuclear weapons (see *Newsbrief* no. 26, page 21).

Once again, there were said to be unremitting food shortages in the Northern part of the country. There was concern that drought threatened the current harvest, and expectations were that the autumn crop would be below last year's level, although it was not expected to be as bad as during the worst period, in the mid 1990s. UN agencies have said that in the past four years, the North's agricultural production had fallen by 70 per cent and that it was particularly the rice crop that had suffered. Altogether, however, the food situation in the North is seen as having substantially improved although according to the Food and Agriculture Organization the DPRK still needs international support.

(*ChI*, 30/6, 19/7, 27/7, 27/8, 7/9, 13/9, 14/9, 20/9, 25/9; *WT*, 30/6, 8/9; *AP*, 3/7, 12/7, 14/7, 17/7, 21/7, 24-28/7, 10/8, 13-15/8, 20-22/8, 24/8, 25/8, 29/8-1/9, 5/9, 11/9, 13/9, 15/9, 20-22/9, 24/9, 25/9, 27/9, 28/9; *KH*, 4/7, 15/7, 17/7, 19/7, 24/7, 28/7, 31/7, 1/8, 4/8, 7/8, 9-11/8, 15-17/8, 21/8, 24/8, 30/8-1/9, 7/9, 10/9, 15/9, 20-22/9, 25/9, 27/9; *KT*, 6/7, 17/7, 19/7, 2/8, 3/8, 9/8, 15/8, 25/8, 28/8, 6/9, 14/9, 19/9, 20/9, 25/9; *JAI*, 11/7, 31/7, 2/8, 20/8, 29/8, 31/8, 5/9; *AFP*, 12/7, 14/7, 18/7, 20-23/7, 25-27/7, 3/8, 7/8, 13/8, 15/8, 20/8, 22/8, 24/8, 30/8, 31/8, 5-7/9, 12/9,

15/9, 18-22/9, 28/9; **R**, 12/7, 21/7, 26/7, 1/8, 14/8, 18/8, 25/8, 28/8, 30/8-1/9, 15/9, 18/9, 28/9, 2/10, 3/10; **NYT**, 13/7, 20/7, 22/7, 26-29/7, 5/8, 14-17/8, 23/8, 30/8-2/9, 11/9, 14/9, 19/9, 21/9, 22/9, 24/9; **YOS**, 14/7, 19/7; **US Department of State**, 17/7, 28/7, 14/9, 25/9; **WP**, 22/7, 23/7, 28-30/7, 4/8, 14/8, 18/8, 30/8, 1/9, 6/9; **Defense Week**, 24/7; **Aerospace Daily**, 25/7; **LAT**, 27/7, 17/8, 29/8, 6/9; **House Policy Committee**, Special Report, 27/7; **WSJ**, 28/7; **IHT**, 31/7, 17/8, 18/9, 19/9; **ASS**, 4/8; **Japan Economic Newswire**, 12/8; **BBC**, 14/8, 23/8; **Izv**, 15/8; **Segodnya** [Moscow], 15/8, 7/9, 8/9; **Asian Wall Street Journal**, 17/8; **NW**, 17/8; **China Daily**, 23/8, 25/8, 2/9, 18/9; **People's Daily**, 11/9; **Telegraph** [London], 24/9; **Asia Times**, 26/9; **Jerusalem Post**, 26/9)

- In late July, there were reports from New Delhi that **India** was withdrawing some of its troops from the area of Kashmir, following a cease-fire proclaimed by the **Hisbul Mujahideen**, one of the most powerful groups fighting India's rule there. India's Prime Minister said he was ready for talks with that group, but he did not concede to its demand that Pakistan be admitted to eventual armistice talks. Hopes for talks died when another militant group, the **Lashker-I-Toiba**, staged several raids on Indian military personnel and on civilians, including large groups of pilgrims, in which over one hundred persons were said to have been killed. Speculation in New Delhi was that these massacres were a reaction to the truce initiative of the rival group, and aimed at sabotaging further peace moves. The **Hisbul Mujahideen**, blaming Indian intransigence, subsequently declared the cease-fire at an end. Since then, and especially in the run-up to Indian Independence Day, on 15 August, militant separatists have carried out a series of attacks on military and civilian targets in various parts of Kashmir, causing many casualties. In August, Indian and Pakistani forces in Kashmir were themselves involved in an exchange of fire, resulting in casualties on both sides.

The situation in Kashmir receives particular attention in the US, where an assessment by combined intelligence organisations is said to have concluded that the likelihood of a war between India and Pakistan that could escalate into a nuclear conflict has increased significantly. Reportedly, this assessment prompted President Clinton during his visit to South Asia in March to call the Indian subcontinent "the most dangerous place in the world". At the time, India's President deprecated the remark as "alarmist descriptions" and its Prime Minister also played down the threat of war with Pakistan. (See also **Newsbrief** no. 49, pp. 15-16.). India also categorically rejected the contention by Pakistan's Foreign Minister that an armed conflict could "erupt into a complete war, in which the nuclear weapons may be used". At the UN's Millennium Summit in September, India and Pakistan harshly criticised each other's policies.

(**NYT**, 26/7, 1-3/8, 8/8, 9/8, 14/8; **Hindu**, 11/8; **BBC**, 12/8, 13/8, 24/8; **X**, 14/8; **NYT**, 9/9)

- On 14 July, **Iran** flight-tested a 'Shahab' missile with a range of 900 miles (1,450 km). The new missile was supposed to be modeled on the DPRK's 'Nodong-1' missile, upgraded with Russian technology. A model with a greater range is reported to be under development. US sources have said that a 'Shahab-5' version could be expected to have intercontinental range. The situation is

cited in Washington as justification for the deployment of an NMD system.

The Deputy Director of the CIA's Non-Proliferation Center has testified to a Senate subcommittee on international security and proliferation that Iran was attempting, with advice from Russian experts, to develop the capability to produce both plutonium and highly-enriched uranium. According to another senior CIA official, some analysts believe that within the next five years, Iran would be able to test-fire an intercontinental ballistic missile.

(**CNN**, 9/7; **US State Department**, 21/9; **Electronic Telegraph** [London], 27/9. See also above, pages 4, 14 and 20)

- No progress seems to have been made, recently, in the implementation of the UN resolutions calling for the disarmament of **Iraq**. Reports about that country's remaining capability of producing weapons of mass destruction and their means of delivery vary. According to the former Executive Director of the United Nations Special Commission on Iraq (UNSCOM), Ambassador Richard Butler, Iraq's Deputy Prime Minister Tariq Aziz, had said that the country possessed biological weapons. Butler has alleged that Iraq is "back in the business" of making weapons of mass destruction and that it is holding "at least 500 tons of fuel usable only by Scud-type missiles". He has also claimed that Iraq has taken steps to reassemble its nuclear-weapons design team and that according to US sources, in the more than 19 months that inspectors have not been able to operate in Iraq, Baghdad has been developing weapons of mass destruction.

Former senior UN arms inspector Scott Ritter, on the other hand, has claimed publicly that UNSCOM has effectively rid Iraq of weapons of mass destruction. Ritter has argued that less aggressive monitoring of Iraq would suffice and that sanctions should be lifted so as to make the entrance of inspectors possible. He has also said that Iraq's ballistic-missile and nuclear capabilities have effectively been eliminated. Ambassador Butler has contradicted these statements, which he has said are contrary to every piece of advice Ritter gave him previously.

The US Administration has contented that Iraq has hidden between 20 and 30 Russian Scud missiles. It is known to have test-fired a smaller version of the Scud, called the **Al-Samud**, a liquid-fuelled ballistic missile with a range of 95 miles (150 km). This does not violate the UN restrictions imposed in 1991, but it does raise concern in Western capitals, where it is taken as a sign that Iraq is still developing missile technology it could also use for longer-range weapons; it also means that facilities supposedly destroyed in December 1998 have been rebuilt and are again in working order.

On 1 September, there was a report from Washington that the US military believed that Iraq might be preparing to launch surface-to-surface ballistic missiles at Israel. Reportedly, a 'Patriot' anti-missile brigade stationed in Germany was being held in a heightened state of alert for possible deployment to Israel. In Jerusalem, Prime Minister Barak was quoted as saying that he did not think Israelis should worry or be distracted by these reports but there has been a press report quoting an Israeli official as

saying that there was concern that maybe Iraq was "going to do something". Israel itself is known to have two batteries of 'Patriots' of a more advanced model than those used during the Persian Gulf War. Comments in Washington indicated that the alert might have been ordered mainly as a warning to Iraq not to take America's preoccupation with the Presidential election campaign as an opportunity to attack Israel. There was also speculation in Washington that the alert might be based on satellite observations, indicating that, with the UNMOVIC team in place, Iraq was getting ready once again to "test the will of the Security Council".

The London *Times* has reported that Iraq is negotiating with Russian companies to set up a long-range missile facility. Recent meetings are said to have focused on the construction of a plant for the production of advanced navigation and guidance components for ballistic missiles. Iraq's President is said to aim at achieving complete independence in the production of key components for long-range ballistic missiles.

Press reports from Germany claim that the German Federal Intelligence Service has detected a secret factory in Iraq, 25 miles (40 km) southwest of Baghdad, where it says a short-range, solid fuel missile is being produced. The same service is quoted as saying that Iraq is working on "studies and blueprints" for missiles with a range of up to 1,875 miles (3,000 km). Contrary to the statement in the *Times* these reports are quoted as saying that Baghdad has tried to buy missile guidance components from Russia, but has not succeeded.

According to reports from New York, Dr Hans Blix, the Executive Chairman of UNMOVIC, has assembled a team of 44 arms inspectors from 19 countries, who are trained and ready for duty in Iraq. UNMOVIC's College of Commissioners met in late August to review plans and prospects for operations in Iraq. On 1 September Dr Blix reported to the Security Council. A week earlier, the Iraqi Deputy Prime Minister had said that his country had not changed its determination not to cooperate with resolution 1284, and that it would not allow Blix or any of his inspectors to enter. The State Department spokesman is quoted as ruling out the use of force if Iraq refuses to give access to UNMOVIC. France's Foreign Minister has reported to the Security Council that he had warned Iraq's Deputy Prime Minister, Tariq Aziz, not to expect the Council to weaken in its desire to have UN inspectors back in the country. At a press conference in Stockholm, in September, Dr Blix said that he believed Saddam Hussein would eventually change his mind and admit UNMOVIC. He was quoted as saying that he was "open-minded" about whether Iraq had nuclear weapons.

The issue of UN sanctions is ever more controversial. Among permanent members of the Security Council, China, France and the Russian Federation have repeatedly called for an end to sanctions; they are supported by several non-aligned nations. The UK, the US and a number of other Western states wish to retain the sanctions until it is obvious that Iraq is in full compliance with the Council's resolutions. Following a meeting with Deputy Prime Minister Tariq Aziz, Russia's President Putin said that he would press for an end to the sanctions; he is reported at the same time to have urged Iraq to allow UN weapons inspectors to resume their work. In anticipation

of a meeting in Caracas of the Organization of Oil Producing Countries (OPEC), Venezuela's President, Hugo Chávez, made an official visit to Baghdad in August. On his way home, he met with Indonesia's President Abdurrahman Wahid in Jakarta, who joined him in calling for the lifting of UN sanctions against Iraq. Meanwhile, that country refused to receive a group of experts the UN Secretary-General wanted to send to assess the impact of the economic sanctions on living conditions in the country and to devise means of improving the implementation of the food-for-oil programme. The system of sanctions is seen as substantially weakened, as commercial aircraft from a number of countries, including France, Lebanon, Morocco, Tunis, the United Arab Emirates, and Yemen, were seen landing at Baghdad airport on a variety of support missions. Jordan and Russia were reported to be planning to resume scheduled air services to Iraq.

During the deliberations in the Security Council, the US Secretary of State confirmed earlier reports that her country would not use force to try and make Iraq allow the resumption of international arms inspections. She did say, however, that this did not mean that the US would not be prepared to act if there was any evidence that Iraq was trying to reconstitute weapons of mass destruction.

Western reports indicate that a number of states around the Persian Gulf are collaborating with Iraq in a large-scale oil smuggling operation to circumvent UN sanctions. At least 100,000 barrels of oil a day are believed to be shipped down the Shatt al-Arab through Iranian waters into the United Arab Emirates. Smaller operations are said to be conducted through Turkey and Syria. The UN has announced that it has evacuated its international observers from Southern Iraq, where they monitor the distribution of goods bought under the 'oil for food' arrangement.

UK and US warplanes have continued their attacks on targets in the no-flight zone of Iraq. Washington has denied Baghdad's contention that some of the raids had destroyed food storages, stating instead that the warehouses were being used by Iraqi forces to store air defence equipment and weapons. In August, Iraq distributed a letter in the UN, claiming that since December 1998, air raids had killed 311 persons in the South of the country and wounded 937. Iraq is said to be testing US reactions with military flights over the no-flight zone; one of its fighter planes was also seen crossing Saudi Arabian airspace.

(I, 23/6, 23/9; **National Post** [Canada], 1/7; **ST**, 2/7; **IHT**, 3/7, 5/7, 18/9, 23-24/9; **NYT**, 3/7, 18/7, 27/7, 13/8, 16/8, 23/8, 24/8, 29/8, 2/9, 12-14/9, 24/9, 27-29/9, 3/10, 5-7/10; **LT**, 4/7, 5/7, 14/8, 22/8; **US Department of State**, 5/7; **Sunday Telegraph** [London], 16/7; **WP**, 17/7, 1/9; **Jerusalem Post**, 18/7; **Milwaukee Journal Sentinel**, 11/8; **AP**, 23/8, 25/8, 1/9; **Bild** [Hamburg], 25/8; **CNN**, 1/9; **Public Radio International**, 1/9; **NW**, 21/9. See also **Newsbrief** no.50, pp. 28 and 29)

- Analysts with the Federation of American Scientists have published a high-resolution satellite image of the 'Dimona' reactor in Israel, which, they claim, indicates that the cooling system of the facility is not commensurate with as high a production of plutonium as was widely thought. According to the Federation's report, "[b]ased on plausible upper and lower bounds of operating

practices at the reactor, Israel could have thus produced enough plutonium for at least 100 nuclear weapons, but probably not significantly more than 200 weapons." According to many earlier estimates, Israel had produced as many as 400 nuclear weapons. Reportedly, however, US security analysts have cautioned that satellite images may be misleading and have pointed out that in operating the reactor Israel had taken careful account of what might be observed from space. (LAT, 21/8; direct information)

- Informal talks have taken place in Seoul between the **Republic of Korea (RoK)** and the US on the question of the RoK joining the Missile Technology Control Regime (MTCR) and on the RoK's wish to build missiles capable of traveling up to 185 miles (300 km). An agreement is said to be within reach. A formal meeting is understood to be planned during the current year; date and place have not been disclosed. (AP, 7/7, 17/7; AFP, 13/7, 14/7; IHT, 13/7. See also *Newsbrief* no. 50, p. 29)

i. Nuclear Material Trafficking and Physical Security

- According to an announcement from Auckland, **New Zealand**, during a raid last March on a suspected people-smuggling operation, police found evidence of plans to attack the 10-MW nuclear research reactor at Lucas Heights, near Sydney, **Australia**, during the Olympic games in September. Three persons reported to have ties with Afghanistan were arrested at the time; a fourth man was detained in August. Sources in New Zealand contend that the group had links with the alleged terrorist Osama bin Laden. The Australian authorities have said they see no threat to the reactor that would justify a shut-down, and a spokeswoman for the responsible Australian cabinet minister has expressed the understanding that there is no link between the Afghanis under investigation and any known terrorist group. Australian environmental groups, including Greenpeace, have accused the government of taking the supposed terrorist threat too lightly. They say that, when in 1996 the Olympic games were held in Atlanta, Georgia, the reactor at the Georgia Institute of Technology was shut down, but, reportedly, this was done in preparation for a fuel change and the reactor still has not been restarted. (R, 25/8; AP, 26/8; CNN, 26/8; BBC, 27/8; NW, 31/8)
- Prosecutors in **Egypt** have charged four men with "gross negligence, manslaughter, and unintentional injury" in connection with the loss of an iridium-192 source. The source, which is used to inspect welds in a gas pipeline, had been abandoned and was picked up by a farmer who showed it to his family. The farmer and his son later died and other family members remained in hospital under treatment for radiation sickness. (NW, 6/7)
- A report from **Georgia** said that three men had been arrested for trying to sell 3.2 grammes of uranium and 50 grammes of plutonium. For the former they had asked \$100,000; the latter was to have cost \$750,000. (Bellona, 20/9)
- The **Kazakhstan** security service has stopped a group of smugglers trying to take some fresh reactor fuel rods into Afghanistan. The material was said to be 3.6 per cent enriched uranium. Its origin was not immediately known. (Ananova Press Service, 7/7)

- Police in **Ukraine** have detained, inside the "exclusion zone" around the Chernobyl nuclear power plant, six Belarus nationals on suspicion of trying to steal non-ferrous metals from the area. Reportedly, they were driving a truck with 1.1 tons of supposedly radioactive metal. (AP, 1/9)
- There is continuing concern about security at nuclear-weapons laboratories in the **United States**. In late June, the University of California, as operator of America's national weapons laboratories, was informed by Energy Secretary Bill Richardson that its contract would have to be restructured to improve security. There has also been a report that the Secretary was planning to relieve the University of its oversight of security at the national laboratories and to take away some of its managerial functions. Problems are also said to have arisen at the government's Pacific Northwest National Laboratory, at Richland, Washington, where a classified document was found to have been left for one day in an area where it was not supposed to be; classified work at the laboratory was suspended. A number of prominent physicists have spoken out against the removal of the University of California as manager of Los Alamos and Lawrence Livermore National Laboratories.

In recent months, the case of Dr Wen Ho Lee, the Los Alamos scientist who was charged in a 59-count indictment with having mishandled highly classified information with the "intent to injure the United States", has figured prominently in the American press and has drawn the attention of the US Congress. In December 1999, on the prosecution's claim that he had downloaded large quantities of secret information on American nuclear weapons from classified computers and transferred it onto tapes — some of which were obtained by the prosecution, while he claimed to have destroyed the rest — Dr Lee was sent to prison pending trial, where he was said to have been held in solitary confinement, shackled during part of the day and with lights kept on throughout the night. The prosecution cited a trip he made to Beijing in 1988 as evidence that he was "the subject of classic P.R.C. statecraft" did not present proof that he had actually transferred nuclear information to anyone.

At a court hearing in August, to determine whether there were grounds to keep him in prison, prosecutors acknowledged that Dr Lee might have been job hunting rather than spying, when he allegedly prepared to give institutions in several foreign countries nuclear information he had copied from classified Laboratory files, but the government appeared to have no evidence that letters Lee was supposed to have written to the institutes where he was thought to have sought employment, had ever been mailed. There were several reports that were seen to throw doubt on the value of the evidence presented against Dr Lee. At the August hearing, the FBI agent who, last December, gave evidence against him that was said to have been instrumental in his being refused bail, acknowledged that he had made an error in his testimony. It was also revealed that when Dr Lee was first interrogated, the FBI officers involved had wrongly told him that he had failed his polygraph test, and had pressured him to sign a confession, without the presence of a lawyer; they were said to have threatened him with execution. The former head of security at DoE, who was in charge of the Wen Ho Lee case when it first surfaced,

was said to have made prejudicial statements about Dr Lee's ethnicity but he has since denied this. Claims made *inter alia* by the President of Sandia National Laboratory, about the supreme importance of the information Lee was supposed to have obtained, were revealed as gross overstatements. CIA Director Tenet has said that the material Lee downloaded constituted "a graduate course in nuclear weapons design" but not the means to build a weapon.

At the hearings, attorneys for the defence tried to show that government witnesses had given misleading information, and that the case had been consistently mishandled in order to implicate Dr Lee in actions he did not commit. Government witnesses for the prosecution, on the contrary, persisted in their claim that the nuclear information Lee had transferred onto his personal computer were the "crown jewels" of the country's defence system, of which disclosure might have altered the global balance of military power. That argument, in turn, was contradicted by testimony from experts who asserted that the data Dr Lee had downloaded would be of no great use to a foreign power and that much of the information — the figure "99 percent" was mentioned — was already on public record but, again, a senior nuclear weapons official at Los Alamos said this statement was misleading and the information taped by Dr Lee would enable the possessor to perform "sophisticated calculations of nuclear explosives". It was contented, however, that information like that which Dr Lee had taped was held at over 500 government offices, so that it was by no means a foregone conclusion that he was the source of any or all data on US nuclear weapons which China was supposed to have obtained in recent years. Reportedly, the prosecution was, and apparently still is, concerned at the fact that Dr Lee would or could not produce some of the file tapes he is known to have made. Government officials suspected all along that he hid them and wished to prevent him from passing them on; this was said to have been the reason why they sought to restrict his movements. The reason why, as it turns out, Lee made a total of 20 tapes, 10 of them copies, while only 3 could be retrieved, continues to puzzle US authorities.

In late August, the judge of the Federal District Court in New Mexico dealing with the matter stated that the government's case against Dr Lee "no longer [had] the requisite clarity and persuasive character" needed to detain him in jail pending trial. He ordered Lee to post \$1 million bail, to remain at his residence near Los Alamos, to be electronically monitored and not to use electronic communication devices or computers. In what was seen a humiliating rebuff to the government, the judge rejected the latter's moves to add new restrictions to his decision. Following the hearing, the judge ordered the government to produce extensive documentation, including classified material, which the defence had been seeking to bolster its argument that Wen Ho Lee was unfairly singled out for prosecution because he is Chinese-American.

On the day set for Dr Lee's release, word came that the Federal Court of Appeals in Denver had issued a stay of the release, while it considered an appeal from the government. The defence and the district judge were seen to be taken by surprise; the former characterized the unexpected move by the prosecution as unusual and unethical. Lee was remanded in custody, although

apparently no longer in shackles. The judge at the Federal District Court of Albuquerque, who had ordered the release, confirmed afterwards that he was no longer convinced that the information presumably downloaded was as sensitive as the government had claimed and said he would have rejected the government's request for a delay if the Court of Appeals had not intervened. Dr Lee's defence lawyers asked the Court of Appeals to reject as disingenuous government arguments against granting bail. A hearing was set for 11 September, but before this could take place it was reported that the prosecution had agreed to drop 58 of the charges if Dr Lee pleaded guilty to the felony charge of having improperly downloaded classified government material onto an insecure computer. It was also said that Dr Lee would cooperate with an investigation as to why he downloaded the information and what he did with it. Under the plea agreement Dr Lee would be sentenced to 'time served' (278 days) and would be released immediately, without paying a fine or serving further probation time. A last-minute dispute between the prosecution and the defence, supposedly connected with the disclosure that the number of tapes Lee produced was higher than initially assumed, was resolved on 13 September, without a new hearing. When releasing Dr Lee, the district judge was said to have apologized to him and to have denounced the prosecution for the way it had dealt with the affair.

In a subsequent explanation to Congress — criticised by some as unconvincing — the prosecution has said that the main reason it consented to a plea bargain was that if the case had proceeded to trial, the defence could have compelled the government to produce evidence of which the disclosure would have been harmful to the national interest.

It was reported in October that, although the government insists on the urgency of finding out why Dr Lee downloaded so much information and what happened to the missing computer tape, the prosecution has canceled its first appointment with Lee. No date has been set for any further discussions.

There has been much comment, in the US Congress, the media and within the Administration, about the way the Wen Ho Lee case has been handled. President Clinton has said he was "troubled" that Lee had been refused bail and at the way he had been treated, but he had felt that it would have been inappropriate for him to intervene. US Attorney General Janet Reno defended the handling of the case by her Department and faulted Lee for the trouble she said he had brought upon himself; she subsequently ordered an internal review. In giving testimony before a joint hearing of the Senate Judiciary and Intelligence Committees, FBI Director Freeh was described as "unrepentant", but he acknowledged that some of his agents had gone too far in the way they treated the suspect. The issue was an opportunity for the Republican Party to criticise the Administration for the way it had handled the matter and also to use Lee — generally referred to as "the suspected Los Alamos spy" who helped China steal nuclear-weapon designs — to chastise the Administration for sloppy security at nuclear-weapons laboratories.

The American press has noted the contrast between the way Dr Lee has been treated, and the case of a former Director of Central Intelligence, John Deutch, who was

investigated for storing classified information in his personal computer. Dr Deutch has acknowledged having committed a security breach but has neither been detained nor prosecuted. According to sworn evidence given by two former senior counterintelligence officers, the determining factor of the action against Dr Lee was his race. In apparent response to the call by a group of US citizens of Asian descent for a government investigation into the case, US Attorney General Janet Reno has had a meeting with leaders of the Asian American community. She is reported to have said that she wished to make public a classified report of the Justice Department which is supposed to be critical of the investigation and the way the prosecution was conducted.

There are reports that Asian and Asian American researchers have begun to avoid working at US weapons laboratories because they claim they are "systematically harassed and denied advancement" there. Reportedly, of 99 senior managers at Los Alamos, one is of Asian descent, and of 322 leaders of technical groups, three are Asian American. This, while more than a quarter of all PhDs in science and technology at American universities are awarded to Asians and Asian Americans. Reportedly, many of them fear that if they apply for jobs at weapons laboratories, they may be suspected of doing so for the purpose of spying. The number of Asian applicants for jobs at Los Alamos, which averaged 28 in 1998 and 1999, fell to three in the first half of the current year; similar statistics are reported from Sandia and Livermore National Laboratories.

Some US press organs have come under fire for the way they have reported and commented on the case. The *New York Times* has been accused of having been too quick in its inferences and to have helped spark a witch hunt. The paper has published an extensive recapitulation of the case, which reads partly as a justification of its reporting, partly also as an apology for hasty conclusions.

In an apparent attempt to refute accusations that the PRC has used employees of US national weapons laboratories to obtain classified information, a book entitled "Foreign Nuclear Web Sites", published in Beijing, lists the information on thermonuclear weapons that is said to be accessible on the Internet.

(DoE Press Release, 30/6; CSM, 7/7; NYT, 7/7, 10/7, 15/7, 16/7, 24/7, 18/8, 19/8, 21/8, 23/8, 25/8, 27/8, 30/8, 2/9, 3/9, 5-7/9, 11/9, 12/9, 14-16/9, 18/9, 23/9, 26-28/9, 4/10, 6/10, 7/10; IHT, 8/7, 9/7, 19/9, 21/9; AP, 10/7, 4/9, 12-14/9, 16/9, 19/9, 20/9, 22/9; R, 24/8, 13-15/9, 18/9, 20/9, 22/9, 24/9, 26/9, 27/9, 2/10; WP, 30/8, 1/9, 14/9; BBC, 1/9; AFP, 12/9; LAT, 13/9, 14/9; Albuquerque Journal, 17/9. See also Newsbrief no. 50, page 29)

- Restrictions imposed by the United States Congress in November 2000 on access by foreign scientists from 25 'sensitive' countries to weapons laboratories and on contacts with American scientists are being relaxed upon the determination by the directors of the CIA and the FBI that the foreign visitors programme has safeguards to prevent the loss of nuclear secrets. The restrictions were imposed after the arrest of Dr Wen Ho Lee. With respect to the disappearance and later reappearance of two computer hard drives containing information for use of the Nuclear Emergency Search Team (NEST), disciplinary

action has been taken against several Los Alamos staff members. (AP, 29/8; R, 2/10. See also Newsbrief no. 50, p. 29-30.)

j. Environmental Issues

- In the **Russian Federation** the case against former naval officer Aleksandr Nikitin now seems to be closed. In 1995, Nikitin was accused of having disclosed classified information when he informed foreign environmentalists about the Russian Navy's practice of dumping radioactive waste at sea and about accidents with Soviet nuclear submarines. He was also charged with disclosure of information about the safety of Russian nuclear naval reactors and was first indicted four years ago on the grounds of treason. In December 1999, the St. Petersburg City Court acquitted him. The prosecution appealed against the acquittal, which was upheld in April of this year by the Collegium on Criminal Cases of the Supreme Court. The Prosecutor General then brought the appeal to the Presidium of the Russian Supreme Court, but this was postponed, allegedly because the prosecution sought more time to influence the Presidium against Nikitin. On 13 September, however, the Supreme Court Presidium refused to reopen the trial, thus dismissing the appeal. There now appear to be no more possibilities for the prosecution to seek a reversal of Captain Nikitin's acquittal.

There is a report that the Russian authorities may reopen the case against Grigory Pasko, a journalist for a naval newspaper in the Russian Pacific Fleet, who was also acquitted of treason charges brought after he had discussed environmental problems with Japanese journalists.

(Bellona, 19/7, 2/8, 7/8, 12/9, 13/9; White House Press Secretary, 3/8; R, 13/9; NYT, 14/9. See also Newsbrief no. 48, p. 24, no. 49, p. 21, and no. 50, p. 30)

- **Russia's** Ministry of Atomic Energy has confirmed that Russia plans to accept over ten-fifteen years, 20,000 metric tons of spent fuel for storage and reprocessing. A third of the expected income of \$21 billion would be applied to tackling environmental problems around nuclear facilities and elsewhere. Reportedly, support has been growing in the State Duma (Lower House of Parliament) for a change in the law that would allow the import of nuclear waste. The idea has led to protests by environmentalist groups. (ENS NucNet News, 24/7/00; St. Petersburg Times, 15/8)
- In the **United States**, a report of the National Academy of Sciences says that most of the sites where nuclear weapons were produced will never be cleaned up enough to allow public access. According to the report, "At many sites, radiological and nonradiological hazardous wastes will remain, posing risks to humans and the environment for tens or even hundreds of thousands of years". The report also says that, "Complete elimination of unacceptable risks to humans and the environment will not be achieved, now or in the foreseeable future". The report is further quoted as saying that the government can try to declare certain areas permanently off-limits, but that it cannot prevent the contamination from spreading. Experts note that the physical controls put up around dangerous sites are unlikely to be maintained "in perpetuity". The report notes several instances where restrictions on groundwater use were disregarded and radiation warnings were stolen.

The report identifies 144 sites where nuclear material was processed and claims that 109 of these will not be cleaned up enough for unrestricted release, because of insufficient money, technical skill or political will. (NYT, 8/8)

k. Miscellaneous

- **Russian Federation:** on 12 August, the nuclear-propelled submarine Kursk — one of Russia's most modern and largest submarines — sank in the Barents Sea with a crew of 118. The cause of the disaster was not immediately clear. There were reports of two detonations, of which the first might have been caused by a torpedo engine blowing up, and the second by the explosion of the warhead. The Russian Navy, however, has rejected this contention and insisted that the accident was caused by an underwater collision with another ship or a floating World War II mine, although there has also been mention in the media of the possibility of an internal explosion. Divers from Norway and the UK who were called in when Russian attempts at rescuing the crew remained fruitless are said to have found the vessel flooded, with every indication that the entire crew perished at the time of the accident. Reportedly, the boat did not carry nuclear weapons; the two reactors are said to have been shut down safely. Survey vessels and analyses of water samples collected by divers have detected no signs of radioactivity in the area and there appears to be no immediate risk of radioactive leaks. Russia's Prime Minister has said that the level of radiation was normal and there were no concerns. The Deputy Prime Minister has said that the wreck will be raised next year, but several experts have recommended only raising the reactors because the vessel is so badly damaged that it may break if moved, and the Russian Minister for Atomic Energy said it might be safer to leave the boat where it is rather than risk a nuclear accident by raising it. President Putin has proposed the conclusion of an international agreement providing for mutual assistance in the case of submarine disasters.

The sinking of the Kursk has once again drawn attention to the risk of radioactive pollution of the waters around the Russian Federation, from the presence of 110 decommissioned submarines that are kept under conditions of minimal maintenance at or near naval bases in the North and the Far East of the country. According to one report, these boats retain a total of 135 nuclear reactors; 72 are said to still contain irradiated fuel. Other accounts give higher figures for decommissioned boats and discarded reactors, many of which also come from surface naval vessels and icebreakers. On-shore storages of spent fuel are said to be generally in bad repair and overloaded. Of the supposedly 40 submarines currently in active service, each with two reactors, many are considered to be inadequately maintained and in need of overhaul. There are indications that the disaster might help strengthen Norwegian-Russian relations and add impetus to the clean-up of spent fuel and nuclear waste in the Murmansk area.

(R, 14/8, 25/8; AP, 15/8, 17/8; NYT, 15-20/8, 22/8; 25/8, 29/8, 30/8, 9/9, 13/9; G, 18/8; AFP, 24/8, Bellona, 24/8; NW, 24/8, 14/9)

- Concerned about a potential 'brain drain' of personnel from the military nuclear sector in Russia, President Putin has promised pay raises and higher pensions to staff

involved in the design, construction and maintenance of nuclear weapons.

Workers from the nuclear industry of Ukraine are reported to be leaving the country in large numbers, to work abroad. Some of them are said to go to Russia, and over 200 to Iran, to help construct the Bushehr nuclear station. The impending closure of the last operating Chernobyl power plant is expected to add to the numbers leaving for Bushehr. The situation is seen as ironic, because the US, for reasons of non-proliferation, has prevailed on Ukraine not to provide turbines for the Bushehr plant. Among the nuclear specialists who were laid off, partly as a result of the turbine order going to Russia, some moved to Russian enterprises, of which several are engaged in Iran. Ukrainian experts have expressed the view that this 'brain drain' can only be stopped if the US helps create new employment opportunities in Ukraine. (NW, 3/8; R, 25/8)

II. PPNN Activities

- The 28th PPNN Core Group meeting will take place at the University of Southampton Conference Centre, Chilworth, UK from 12 to 15 October. This will focus on the understandings reached at the 2000 NPT Review Conference and how they might be implemented.
- Requests for grants have been made to US and Japanese foundations to enable the work of PPNN to continue beyond the end of this year. These are based upon continuing the production of the *Newsbrief* and focusing PPNN's analytical work on the implementation of the outcomes of the 2000 NPT Review Conference. The results of the requests will not be known until the end of the year.

III. Recent Publications

Books

S. Rajagopal, *Fissile Material Cut-off Treaty and Options for India*, NIAS Working Paper WP1-99, National Institute of Advanced Studies, Bangalore, 109 pp.

Darryl Howlett, Tanya Ogilvie-White, John Simpson and Emily Taylor, *Nuclear Weapons Policy at the Crossroads*, Royal Institute of International Affairs, 124 pp.

Martin B. Kalinowski (ed.), *Global Elimination of Nuclear Weapons*, NOMOS Verlagsgesellschaft, Baden-Baden, 278 pp.

Vladimir Orlov and Nikolai Sokov (eds.), *Yadernoe Nerasprostranenie* [Nuclear Nonproliferation], PIR Center for Policy Studies in Russia, Moscow, 504 pp.

John Stremlau, with a foreword by Sadako Ogata, 'People in Peril: Human Rights, Humanitarian Action, and Preventing Deadly Conflict', *Report to the Carnegie Commission on Preventing Deadly Conflict*, Carnegie Corporation of New York, May 1998, 80 pp.

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Articles

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IV. Documentation

a. Extract from the Message of the UN Secretary-General to the 44th IAEA General Conference

...
I would like to turn first to the Agency's role in seeking to prevent nuclear proliferation. Despite some progress in the reduction of nuclear weapons – in particular the Russian Federation's ratification of the START II agreement – there is deep concern within the international community at the major threat that such weapons continue to pose to international peace and security. The positive outcome of the 2000 Review Conference of the Treaty on the Non-Proliferation of Nuclear Weapons is therefore encouraging. For the first time in 15 years, States parties to the Treaty were able to reach a consensus on several issues crucial to the security of all the people's of the world. They pledged to make new efforts aimed at the total elimination of nuclear arsenals, halting the global spread of nuclear weapons, and strengthening the essential standards governing the peaceful uses of nuclear energy. I am also pleased that at the Millennium Summit, just two weeks ago, world leaders have resolved to keep all options open for achieving the elimination of weapons of mass destruction, including the possibility of convening an international conference to identify ways of eliminating nuclear dangers.

The Agency has played a significant role in the success of the 2000 Review Conference of the NPT. It has now an even greater role to play in verifying State's fulfillment of their obligations as further arms control and disarmament measures identified at the Conference are pursued. In this context, I welcome the Agency's continuing efforts to strengthen and improve the nuclear safeguards system. And I would like once again to urge all Member States to accept the Additional Protocols to Existing Safeguards Agreements as a means of further strengthening this system.

Although the 2000 Review Conference marks a significant step forward, much remains to be done to free the world of nuclear dangers. The number of ratifications of the Comprehensive Test-Ban Treaty has increased during the past year, but the challenges that confront its entry into force persist, especially after the United States' Senate's rejection of ratification in October 1999. I reiterate my call to all States to ratify the Treaty, particularly those whose ratification is necessary for its entry into force.

We are facing yet another danger now, namely the growing pressure to deploy national missile defences. Let me stress that within the scientific community, there is widespread skepticism that such systems could ever work effectively. There is however real concern that their deployment could lead to a new arms race, set back nuclear disarmament and non-proliferation policies, and create new incentives for missile proliferation. I trust that States will weigh these factors very carefully before embarking on a path that could jeopardize the Anti-Ballistic Missile Treaty and that may reduce, rather than enhance, global security.

...

b. Extract from the Statement of the Director General to the IAEA General Conference

The Agency as an Instrument for the Verification of Nuclear Non-Proliferation

The 1999 Safeguards Implementation Report (SIR) points to significant progress in some areas of the Agency's safeguards implementation and a lack of progress in others. For States with safeguards agreements in force, the Safeguards Statement for 1999 concluded that all nuclear material placed under safeguards had remained in peaceful uses or was otherwise adequately accounted for. The 1999 Safeguards Statement also included, for the first time, conclusions about the absence of *undeclared* nuclear material and activities in the State "as a whole" for two States with Additional Protocols in force.

Safeguards Agreements and Additional Protocols

The Final Document of the 6th Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) recognized IAEA safeguards as an indispensable component of the non-proliferation regime, and endorsed measures to strengthen these safeguards through the Additional Protocol. The Final Document also noted that 51 States party to the Treaty have not yet brought into force comprehensive safeguards agreements with the Agency. These unfulfilled legal obligations have been a matter of long standing concern. I am therefore encouraged that several States party to the Treaty have recently contacted the Secretariat about concluding the requisite safeguards agreements.

Since last year's General Conference, a further 9 Additional Protocols have been approved by the Board of Governors. Although this is welcome, the total number of Additional Protocols approved is only 54, a number far short of expectations. I would urge you, therefore, to assist the Secretariat in its endeavours to ensure that *all* States that have made a legally binding non-proliferation commitment to fulfil their obligation to conclude the required safeguards agreement; and that universal adherence to the Additional Protocol is attained. As I have repeatedly stated, without the conclusion of the required safeguards agreement, the Agency cannot provide *any* assurance about compliance by States with their non-proliferation obligations. And without the Additional Protocol the Agency can only provide *limited* assurances that do not adequately cover the absence of undeclared material or activities.

The number of States with an Additional Protocol in force has risen from 4 to 16 in the past year. Among them are States with substantial nuclear fuel cycle activities, such as Canada and Japan. Besides setting an excellent example, these developments will be a major asset to the Secretariat in terms of the activities it performs and the experience it gains.

An important measure to both strengthen and maximize the effectiveness of the safeguards system is the current development of new "integrated safeguards." This refers to the optimum combination of all safeguards measures available to the Agency — 'integrating' traditional safeguards measures with the measures of the Additional Protocol to ensure a system that is cost effective while achieving the maximum degree of assurance both of non-diversion of *declared* nuclear material and of the absence of *undeclared* nuclear material and activities.

Much preparatory work has been done already, and this work will be enhanced as we gain experience with the new measures under the Additional Protocol. We aim to complete the conceptual framework for integrated safeguards by the end of 2001.

Implementation of United Nations Security Council Resolutions Relating to Iraq

The Agency has not been in a position since December 1998 to implement its mandate in Iraq under UN Security Council Resolution 687 and related resolutions. As a consequence, it is not able at present to provide any assurance that Iraq is in compliance with its obligations under those resolutions. In light of the fact that UN Security Council mandated activities ceased

in December 1998, and given the requirements of the IAEA safeguards system, the Agency carried out an inspection in Iraq in January 2000 pursuant to Iraq's NPT safeguards agreement. With the co-operation of the Iraqi authorities, the inspectors were able to verify the presence of the nuclear material subject to safeguards (low enriched, natural and depleted uranium) which is still in Iraq. As I noted at the time, the inspection was not designed to be and could not serve as a substitute for our activities under the resolutions of the Security Council. The Agency must return to Iraq if it is to fulfil the mandate entrusted to it under those resolutions and to provide the enhanced assurances sought by the Council.

Safeguards Agreement with the Democratic People's Republic of Korea

Since the last meeting of the General Conference, technical discussions with the Democratic People's Republic of Korea (DPRK) have enabled us to resolve a number of minor day to day problems. However, there has been no significant change to the assessment made at the last General Conference. The Agency is still unable to verify that the DPRK has, in fact, declared all nuclear material which should be subject to safeguards.

With the construction phase of the Light Water Reactor (LWR) project now under way, we are coming closer to the time at which the "key nuclear components" of the LWRs are due to be delivered. Before this can happen, the DPRK must, under the "Agreed Framework" between the DPRK and the United States of America, "come into full compliance with its safeguards agreement."

There are many steps that the Secretariat needs to take and activities that it needs to carry out before it will be able to make any meaningful assessment of the correctness and completeness of the DPRK's initial declaration. Our assessment is that the entire verification process may take between 3 and 4 years to complete, depending on the results of our initial findings and on the degree of co-operation that we receive from the DPRK.

We therefore need to start our work now. For that, full co-operation on the part of the DPRK is and will continue to be essential. Given the recent positive developments in the Korean Peninsula, it is my hope, as I have said previously to the Board, that the DPRK will soon be ready to commence active co-operation with the Agency toward that end. Its normalization of relations with the Agency will also help us to provide advice and expertise regarding the important safety aspects of the LWR project.

Application of IAEA Safeguards in the Middle East

In keeping with the General Conference mandate, I have continued my consultations with the States of the Middle East region regarding the application of full scope safeguards to all nuclear activities in the Middle East, and the development of model agreements, that would contribute to the establishment of a nuclear weapon free zone. Regrettably, little progress has been achieved so far. Needless to say, I will continue to use all available venues, within my authority, and with the concurrence of the States concerned, to move that mandate forward. Movement toward an overall settlement in the region will certainly boost my ability to make progress. In that context, and with the concurrence of the parties concerned, I would be ready to arrange a forum in which participants from the Middle East could learn from the experience of other regions with respect to comprehensive verification arrangements and confidence building measures that contribute to the establishment of a nuclear weapons free zone.

Other Verification Activities

The Agency Secretariat continues to make progress, in consultations with the Russian Federation and the United States of America, on the development of modalities for verifying nuclear materials excess to their military programmes. An important objective in these consultations is the ability to assure the international community that the material is irreversibly removed from military programmes. In parallel, the three parties have been engaged in discussions to identify appropriate

technical means to ensure both that the Agency will be able to draw independent conclusions, and that no classified information pertaining to nuclear weapon design will be available to Agency inspectors.

In addition to these consultations, I should mention that in September the USA and Russia signed a bilateral Plutonium Management and Disposition Agreement, which commits each Party to the withdrawal of 34 tonnes of weapons grade plutonium from its nuclear weapons programme. The Agreement provides that each party will conclude appropriate agreements with the IAEA, to allow the Agency to implement verification measures. I welcome this new Agreement as a step toward nuclear arms control. Naturally, the Agency will be ready to discuss the modalities for implementing its verification system.

Security of Material

In the area of Security of Material, a comprehensive report has been submitted to the Board and the General Conference on the activities undertaken since last year to strengthen the security of nuclear and other radioactive materials. The fact that the Agency's database on illicit trafficking now contains some 330 confirmed cases, including the seizure in April this year of almost one kilogram of high enriched uranium, shows the urgent need to strengthen the national and international frameworks for the protection of nuclear and radioactive material.

Work is in progress to define a plan of activities to be undertaken in the area of Security of Material, as requested by the last General Conference. The prevention and detection of, as well as response to illicit trafficking of radioactive materials, will remain the core of this programme, with a primary focus on the development of standards and guides and their application in Member States.

Future Challenges in Verification

To sum up my review of the verification pillar, let me emphasize that the first challenge facing the Agency in that area is to secure the conclusion of all the required safeguards agreements and attain universal adherence to the Additional Protocol, which would enable the Agency to provide comprehensive assurance regarding compliance by States with their non-proliferation commitments. A second important challenge is the completion of the conceptual framework for the new integrated safeguards system and its implementation to ensure the maximum effectiveness and efficiency of safeguards. A third challenge is to be able to provide the assurances required by the international community in both Iraq and the DPRK. And a fourth challenge is to prepare for the potential application of Agency verification to new nuclear arms control agreements, through the development of the required verification measures.

...

VI. Conclusion

This review of achievements and challenges illustrates the important role the Agency plays in achieving the global objectives of "freedom from fear" and "freedom from want." In that context, it is heartening to note the explicit vote of confidence in the Agency expressed in the Final Document of the NPT review conference. It reaffirmed several principles central to our mission, including the following:

1. Important benefits for achieving sustainable development and for improving the quality of life can derive from the peaceful application of nuclear energy and nuclear techniques. The Agency therefore has a fundamental role in assisting developing countries to improve their scientific, technological and regulatory capabilities.

2. Agency safeguards form a fundamental pillar of the non-proliferation regime and create an environment conducive to nuclear disarmament and nuclear co-operation.

3. Both national measures and international co-operation are essential for nuclear, radiation, and waste safety, and the Agency has an indispensable role in the promotion of a global safety culture.

Clearly, much has been achieved, but more remains to be done. I am confident that, with your commitment and support, the Agency will continue to make an important contribution in the effort to make our world safer and more humane.

c. IAEA General Conference Resolutions adopted September 2000

GC(44)/RES/9 — The Financing of Safeguards: Revised arrangements for the assessment of Members' contributions towards the safeguards component of the Agency's Regular Budget

The General Conference,

(a) *Recalling* its resolutions GC(III)/RES/50, GC(XXI)/RES/351 and GC(39)/RES/11 and other relevant resolutions embodying principles for the assessment of Members' contributions towards the safeguards component of the Agency's Regular Budget,

(b) *Having considered* the Board's recommendations made pursuant to resolution GC(39)/RES/11, and

(c) *Desiring* to arrive at permanent and cost-effective arrangements for the financing of safeguards,

1. *Decides* to introduce the following arrangements for the financing of safeguards, which will end the "shielding" system within a specified time frame:

A. Three-year adjustment period

(i) The revised arrangements for the assessment of Members' contributions towards the safeguards component of the Agency's Regular Budget set forth in resolution GC(39)/RES/11 shall be extended until 31 December 2003.

(ii) Subject to sub-paragraph (iii) below, the list of "shielded" Members established for the Agency's 2000 Regular Budget pursuant to operative paragraph 1.(c)(ii) of resolution GC(39)/RES/11 (hereinafter referred to as the "shielded list") shall be frozen with effect from 2000.

(iii) A State that becomes a Member of the Agency before 31 December 2003 shall, if it satisfies the criteria established for "shielding" in resolution GC(39)/RES/11 as applied for the Agency's 2000 Regular Budget, be eligible to be included in the "shielded list". However, it may instead elect to contribute in accordance with operative paragraph 1.(c)(iii) of resolution GC(39)/RES/11.

B. System for phasing out "shielding"

(i) The "shielded list" shall be divided into four categories on the basis of the per capita gross national product (PCGNP) data used to establish that list. The "shielded" Members shall be assigned to categories on the basis of a comparison of their PCGNPs with the average of the PCGNPs of the 15 Members with the highest PCGNPs (hereinafter referred to as "the average PCGNP"). Subject to paragraphs (iv) and (v) below, the categories of "shielded" Members will remain frozen during the entire period of phasing-out of the current "shielding" system. These categories are as follows:

Category 1: Members with PCGNPs greater than 20% of the average PCGNP

Category 2: Members with PCGNPs from 11% through 20% of the average PCGNP

Category 3: Members not in Category 4 with PCGNPs less than 11% of the average PCGNP

Category 4: Members which in 2000 are least developed countries (LDCs)

(ii) The Members in each category shall have their annual contributions to the safeguards component of the Regular Budget proportionally increased each year starting from 2004. The annual increases for each of the categories shall result in the termination of "shielding" over the following numbers of years:

Category 1: 7 years

Category 2: 12 years

Category 3: 17 years

Category 4: 25 years

(iii) Beginning in 2004, actual budgeted amounts for the safeguards component of the Regular Budget shall be used in

calculating the shares of those Members which remain "shielded" during the phasing out period.

(iv) A State which is an LDC and becomes a Member of the Agency after 2003 shall be placed in Category 4 and be incorporated in the phasing-out process from the year its membership becomes effective until 2028.

(v) A "shielded" Member may at any time decide to become "unshielded" or to be included in a category which provides for the phasing-out of "shielding" over a shorter period of time.

2. Requests the Board of Governors to keep the Agency's safeguards activities under review to ensure their cost-effectiveness and assess their impact on the Agency's safeguards budget.

GC(44)/RES/17 — Safety of Transport of Radioactive Materials

The General Conference,

(a) *Recalling* that in 1999, in resolution GC(43)/RES/11, it — inter alia — requested Member States shipping radioactive materials to take into account, as appropriate, its invitation (contained in resolution GC(42)/RES/13) to provide, as appropriate, assurances to potentially affected States upon their request that their national regulations take into account the Regulations for the Safe Transport of Radioactive Material (the Agency's Transport Regulations) and to provide them with relevant information relating to shipments of such materials. The information provided should in no case be contradictory to the measures of physical security and safety,

(b) *Noting with appreciation* the report on the "Safety of transport of radioactive materials" contained in document GC(44)/INF/7,

(c) *Noting with interest* the account given in that report of the survey, initiated by the Secretariat in February 2000, concerning the implementation by Member States of the Agency's Transport Regulations,

(d) *Noting* that the Secretariat intends to make available on the Agency transport safety web page the latest list of Member States' national competent authorities responsible for radioactive materials transport and information provided by Member States which returned completed questionnaires in response to the aforementioned survey,

(e) *Recognizing* that the Secretariat has been working closely with the international modal organizations — the International Civil Aviation Organization (ICAO), the International Maritime Organization (IMO) and the Inland Transport Committee of the United Nations Economic Commission for Europe (UN/ECE) — on the harmonization of the content and the timing of the adoption of the regulations with the 1996 edition of the Agency's Transport Regulations, with a view to reaching world-wide harmony of the modal regulatory documents during 2001,

(f) *Recalling* resolution GC(43)/RES/11, in which it encouraged Member States "to make use where appropriate" of the Transport Safety Appraisal Service (TransSAS) established by the Secretariat,

(g) *Recalling* that States have under international law the obligation to protect and preserve the marine environment, and

(h) *Noting* the concerns of small island developing States and other coastal States about the transport of radioactive materials by sea and the importance of the protection of their populations and the environment,

1. *Expresses its satisfaction* with the progress made in revising the Agency's Transport Regulations and in the implementation of the Agency's Transport Regulations by international organizations;

2. *Notes* that only 55% of the Agency's Member States returned completed questionnaires in response to the Secretariat's survey of February 2000 and that, with regard to international transport,

- 15% of the respondents do not have transport regulatory documents consistent with any edition of the Agency's Transport Regulations, and

- only 18% have transport regulatory documents based on the 1996 edition of the Agency's Transport Regulations;

3. *Requests* the Secretariat to seek from each Member State which did not respond to the February 2000 survey information on how it regulates the transport of radioactive materials, for publication on the Agency transport safety web page;

4. *Encourages* Member States whose national regulatory documents governing the transport of radioactive materials are not in conformity with the 1996 edition of the Agency's Transport Regulations to bring them into conformity with the 1996 edition and Member States which do not have national regulatory documents governing the transport of radioactive materials to adopt such documents, ensuring that they are in conformity with the 1996 edition, with a view to completing this action during 2001;

5. *Commends* those Member States which have already made use of TranSAS and *encourages* other Member States to avail themselves of it with a view to achieving high levels of safety during the transport of radioactive materials;

6. *Requests* the Secretariat to continue its work of reviewing and revising the Agency's Transport Regulations, on the basis of a schedule consistent with the regulation revision schedules of the international modal organizations, with a view to issuing a revised edition of the Agency's Transport Regulations every two years, as necessary, beginning in 2003;

7. *Invites* Member States shipping radioactive materials, consistent with the invitation in resolutions GC(42)/RES/13 and GC(43)/RES/11, to provide, as appropriate, assurances to potentially affected States upon their request that their national regulations take into account the Agency's Transport Regulations and to provide them with relevant information relating to shipments of radioactive materials. The information provided should in no case be contradictory to the measures of physical security and safety;

8. *Calls for* efforts, at the international, regional and bilateral level, to examine and further improve measures and international regulations relevant to the international maritime transport of radioactive material and spent fuel, consistent with international law, and *stresses* the importance of having effective liability mechanisms in place;

9. *Requests* that the actions of the Secretariat called for above be undertaken within available resources; and

10. *Requests* the Director General to report to it at its forty-fifth (2001) regular session on the implementation of this resolution.

GC(44)/RES/19 — Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System and Application of the Model Protocol

The General Conference,

(a) *Recalling* resolution GC(43)/RES/17,

(b) *Convinced* that the Agency's safeguards can promote greater confidence among States and thus contribute to strengthening their collective security,

(c) *Considering* the Treaty on the Non-Proliferation of Nuclear Weapons, the Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean, the South Pacific Nuclear Free Zone Treaty, the Treaty establishing the African Nuclear-Weapon-Free Zone and the Treaty on the Southeast Asia Nuclear-Weapon-Free Zone and the Agency's essential role in applying safeguards in accordance with the relevant articles of these treaties,

(d) *Noting* that decisions adopted by the Board of Governors aimed at further strengthening the effectiveness and improving the efficiency of Agency safeguards should be supported and implemented and that the Agency's capability to detect undeclared nuclear material and activities should be increased,

(e) *Stressing* the importance of the Model Additional Protocol approved on 15 May 1997 by the Board of Governors aimed at strengthening the effectiveness and improving the efficiency of the safeguards system,

(f) *Welcoming* the fact that, as of 22 September 2000, 53 States and other Parties to safeguards agreements have signed additional protocols, 16 of which have entered into force and 1 is being provisionally applied pending entry into force,

(g) *Noting* the high priority the Agency attaches, in the context of furthering the development of the strengthened safeguards system, to integrating traditional nuclear material verification activities with the new strengthening measures, and looking forward to an expeditious conclusion of this work,

(h) *Welcoming* the fact that in the safeguards statement of the Agency for 1999 conclusions could be drawn for two States that have a comprehensive safeguards agreement and an additional protocol in force about the non-diversion of declared nuclear material and about the absence of undeclared nuclear material and activities for the State as a whole,

(i) *Noting* the considerable increase in the Agency's safeguards responsibilities since the 1995 Review and Extension Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons,

(j) *Stressing* that the strengthening of the safeguards system should not entail any decrease in the resources available for technical assistance and co-operation and that it should be compatible with the Agency's function of encouraging and assisting the development and practical application of atomic energy for peaceful uses and with adequate technology transfer, and

(k) *Recalling* that the Final Document of the 2000 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons — inter alia — (1) reaffirmed that the IAEA is the competent authority responsible for verifying and assuring, in accordance with the Agency's Statute and the Agency's safeguards system, compliance with its safeguards agreements and (2) recommended that the Director General of the IAEA and the IAEA's Member States consider ways and means, which could include a possible plan of action, to promote and facilitate the conclusion and entry into force of safeguards agreements and additional protocols, including, for example, specific measures to assist States with less experience in nuclear activities to implement legal requirements, consistent with the respective safeguards undertakings of Member States:

1. *Calls on* all Member States to give their full and continuing support to the Agency in order to ensure that the Agency is able to meet its safeguards responsibilities;

2. *Requests* the Secretariat to pursue the implementation of safeguards strengthening measures contained in document GOV/2807 and endorsed by the Board of Governors in 1995 as well as of Additional Protocols as broadly as possible and without delay as far as available resources permit;

3. *Notes* the important work being undertaken by the Agency in the conceptualization and development of integrated and cost-effective safeguards, and *requests* the Secretariat to continue its work in further developing and implementing them on a priority basis;

4. *Urges* the Secretariat to continue to study in the context of implementation of integrated safeguards to what extent the credible assurance of the absence of undeclared nuclear material and activities, including those related to enrichment and reprocessing, in a State as a whole could lead to a corresponding reduction in the current level of verification efforts with respect to declared nuclear material in that State and a corresponding reduction in the costs associated with such efforts;

5. *Recalls* the need for all concerned States and other Parties to safeguards agreements with the Agency to supply the Agency with all the information required under safeguards strengthening measures contained in document GOV/2807 and endorsed by the Board of Governors in 1995;

6. *Stresses* the need for effective safeguards in order to prevent the use of nuclear material for prohibited purposes in contravention of safeguards agreements, and *underlines* the vital importance of effective safeguards for facilitating co-operation in the field of peaceful uses of nuclear energy;

7. *Urges* those non-nuclear-weapon States which have yet to bring into force comprehensive safeguards agreements to do so as soon as possible;

8. *Affirms* that measures to strengthen the effectiveness and improve the efficiency of the safeguards system with a view to detecting undeclared nuclear material and activities must be implemented rapidly and universally by all concerned States and

other Parties in compliance with their respective international commitments;

9. *Reiterates* its support for the Board's decision to request the Director General to use the Model Additional Protocol as the standard for additional protocols which are to be concluded by States and other Parties to comprehensive safeguards agreements with the Agency and which should contain all of the measures in the Model Additional Protocol;

10. *Welcomes* the fact that all nuclear-weapon States have now concluded protocols additional to their voluntary-offer safeguards agreements incorporating those measures provided for in the Model Additional Protocol that each nuclear-weapon State has identified as capable of contributing to the non-proliferation and efficiency aims of the Protocol, when implemented with regard to that State, and as consistent with that State's obligations under article 1 of the NPT, and invites such States to keep the scope of those additional protocols under review;

11. *Reiterates* its support for the Board's decision to request the Director General to negotiate additional protocols with other States that are prepared to accept measures provided for in the Model Additional Protocol in pursuance of safeguards effectiveness and efficiency objectives;

12. *Requests* all concerned States and other Parties to safeguards agreements which have not yet done so to sign additional protocols promptly;

13. *Requests* the States and other Parties to safeguards agreements having signed additional protocols to take the necessary measures to bring them into force or provisionally apply them as soon as their national legislation allows;

14. *Recommends* that the Director General, the Board of Governors and Member States consider implementing the following elements of a plan of action, as appropriate and subject to available resources, so that safeguards agreements and additional protocols can be brought into force, and review progress in this regard:

(i) Intensified efforts by the Director General to conclude safeguards agreements and additional protocols, especially with those States having substantial nuclear activities under their jurisdiction,

(ii) Increased bilateral and regional consultations among Member States at both technical and political levels, with a view to promoting the domestic process to conclude safeguards agreements and additional protocols,

(iii) Assistance by the IAEA and Member States to other States by providing their knowledge and technical expertise necessary to conclude and implement safeguards agreements and additional protocols,

(iv) Reinforced co-ordination between Member States and the IAEA Secretariat in their efforts to promote the conclusion of safeguards agreements and additional protocols,

(v) Consideration by Member States, subject to progress made under (i) to (iv) above, of further steps to promote the safeguards agreements and protocols, including, inter alia, an appropriate international meeting;

15. *Requests* the Secretariat to examine, subject to the availability of resources, innovative technological solutions to strengthen the effectiveness and to improve the efficiency of safeguards;

16. *Requests* Member States to co-operate among themselves to provide appropriate assistance to facilitate exchange of equipment, material and scientific and technological information for the implementation of additional protocols; and

17. *Requests* the Director General to report on the implementation of this resolution to the General Conference at its forty-fifth regular session.

GC(44)/RES/20 — Measures Against Illicit Trafficking in Nuclear Materials and Other Radioactive Sources

The General Conference,

(a) *Recalling* its resolutions GC(XXXVIII)/RES/15, GC(39)/RES/18, GC(40)/RES/17, GC(41)/RES/17, GC(42)/RES/18 and GC(43)/RES/18 on measures against illicit trafficking in nuclear materials and other radioactive sources,

(b) *Noting* the programme for preventing and combating illicit trafficking in nuclear material agreed upon by the participants in the Moscow Nuclear Summit of April 1996 contained in document INFCIRC/509,

(c) *Welcoming* the confirmation of participants at the Denver Summit of June 1997 on their commitment to implement the "Programme for Prevention and Combating Illicit Trafficking in Nuclear Materials",

(d) *Noting* that revised Recommendations for the Physical Protection of Nuclear Materials and Nuclear Facilities (INFCIRC/225/Rev. 4 (Corrected)) which were issued after intensive consultations by Member States' and Agency experts are now under consideration and that some Member States have started to implement them on a voluntary basis,

(e) *Noting also* the contribution of Agency safeguards agreements and Additional Protocols to combating illicit trafficking by the prevention of diversion of nuclear materials,

(f) *Noting further* that the Agency, together with the European Commission, the World Customs Organization and the International Criminal Police Organization (Interpol), organized the "International Conference on the Safety of Radiation Sources and the Security of Radioactive Materials" in Dijon, France, from 14 to 18 September 1998, and that the results of that conference have had an important impact on the activities undertaken by the Agency,

(g) *Noting further* that some of the activities are covered by the Secretariat Action Plan for the Safety of Radiation Sources and the Security of Radioactive Materials developed pursuant to resolution GC(42)/RES/12, which was approved by the Board and endorsed by the General Conference in resolution GC(43)/RES/10,

(h) *Noting further* that the informal Open-Ended Experts Meeting to discuss whether there is a need to revise the Convention on the Physical Protection of Nuclear Material decided at its meeting of 15–17 November 1999 in Vienna to continue its work in a series of working group meetings with the participation of the Agency's Secretariat,

(i) *Looking forward* to the outcome of the International Conference on "Security of Material — Measures to Prevent, Intercept and Respond to Illicit Uses of Nuclear Material and Radioactive Sources" due to take place in Stockholm, Sweden, from 7 to 11 May 2001, and

(j) *Noting further* that the UN General Assembly is continuing its elaboration of an international convention on the suppression of acts of nuclear terrorism (UNGA resolution 51/210 of 17 December 1996),

1. *Takes note* of the progress report submitted by the Secretariat in document GC(44)/15;

2. *Welcomes* the ongoing activities in the fields of prevention, detection and response undertaken by the Secretariat in support of efforts against illicit trafficking;

3. *Also welcomes* the activities undertaken to provide for an exchange of information with Member States, including continued maintenance of the illicit trafficking database programme, as well as to improve the exchange of information by making the best use of the modernized database;

4. *Invites* all States to participate in the illicit trafficking database programme on a voluntary basis;

5. *Appeals to* States that have not yet done so to accede to the Convention on the Physical Protection of Nuclear Material, adopt relevant physical protection and safety standards and introduce and enforce appropriate measures and legislation to combat illicit trafficking in nuclear materials and other radioactive sources;

6. *Invites* the Director General to submit a report to the Board of Governors on the progress of the Secretariat's activities and on the possibilities:

- of further improving the international standards in this area, particularly with regard to the security of radioactive materials, and
- of enhancing co-operation and co-ordination with Member States and with other international organizations, with the aim of preventing, detecting and responding to the illegal use of nuclear materials and other radioactive sources;

7. *Also invites* the Director General, in consultation and co-ordination with Member States, to develop, within available resources, a plan describing the future activities to be undertaken in these areas and the time schedule for their implementation;

8. *Requests* the Director General to submit a report to the General Conference at its forty-fifth session on activities undertaken by the Agency in the intervening period; and

9. *Requests* the Director General to bring the present resolution to the attention of the UN General Assembly and *invites* the UN General Assembly, in its continued elaboration of an international convention on the suppression of acts of nuclear terrorism, to bear in mind the Agency's activities in preventing and combating illicit trafficking in nuclear materials and other radioactive sources.

GC(44)/RES/25 — Outcomes of the NPT Review Conference Relevant to the Activities of the IAEA

The General Conference,

(a) *Mindful* that the overwhelming majority of the Member States of the Agency are also Parties to the Treaty on the Non-Proliferation of Nuclear Weapons,

(b) *Noting* that on 19 May 2000, the Review Conference of the Parties to the Treaty adopted by consensus a Final Document including a review of the operation of the Treaty,

(c) *Noting with appreciation* that the Final Document reaffirms that every effort should be made to implement the Treaty in all its aspects and to prevent the proliferation of nuclear weapons and other nuclear explosive devices, without hampering the peaceful uses of nuclear energy,

(d) *Observing* that a major part of the Final Document relates directly to the activities of the Agency and contains important recommendations of relevance to its work,

(e) *Noting also* the acknowledgement by the States Parties of the importance of the work of the Agency as the principal agent for technology transfer, among the international organizations for co-operation in contributing to the further development of the applications of nuclear energy for peaceful purposes, as referred to in Article IV.2 of the Treaty,

(f) *Recognizing* that a significant proportion of the work of the Agency is related to the implementation of the Treaty, in fulfilment of the instrumental role in the verification of nuclear non-proliferation assigned to the Agency by Article III of the Treaty, and in compliance with Article III.A.5 of the Statute, which mandates the establishment and administration of safeguards and their application at the request of the parties to any multilateral arrangement, and Article III.B.1 of the Statute, which requires the Agency to conduct its activities in conformity with any international agreements entered into pursuant to policies of the United Nations furthering the establishment of safeguarded worldwide disarmament,

(g) *Recognizing also* the significant responsibilities entrusted to the Agency in the field of nuclear safety and other fields by successive Conferences of the Parties to the Treaty, and

(h) *In accordance with* the Statute of the Agency and the rights and obligations of Member States arising therefrom, including their respective safeguards agreements,

1. *Welcomes* the fact that the States Parties to the Treaty on the Non-Proliferation of Nuclear Weapons have been able to adopt by consensus a Final Document that includes both forward-looking elements and a thorough review of the operation of the Treaty;

2. *Notes with appreciation* the confidence in the work of the Agency expressed by the States Parties in that Final Document;

3. *Recalls* the statement of the Director General to the Board of Governors on 5 June 2000, in which he noted that the Final Document reaffirmed a number of principles of key importance to the work of the Agency, among them: assisting developing countries to improve their scientific, technological and regulatory capabilities; Agency safeguards; and the promotion of a global safety culture, and expressed the hope that the affirmation of these and other important principles relevant to nuclear disarmament contained in the Final Document would be followed by the action required to transform them from ideals

into reality, and affirmed the readiness of the Secretariat to participate fully in that process; and

4. *Requests* the Secretariat, in the light of the outcomes of the 2000 Review Conference, to redouble its efforts to implement its work programme, as approved by the Board of Governors, and thus contribute also to the peaceful uses of nuclear technology and prevent nuclear proliferation.

GC(44)/RES/26 — Implementation of the Agreement Between the Agency and the Democratic People's Republic of Korea for the Application of Safeguards in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons

The General Conference,

(a) *Recalling* the Board of Governors' resolutions GOV/2636, GOV/2639, GOV/2645, GOV/2692, GOV/2711 and GOV/2742 and General Conference resolutions GC(XXXVII)/RES/624, GC(XXXVIII)/RES/16, GC(39)/RES/3, GC(40)/RES/4, GC(41)/RES/22, GC(42)/RES/2 and GC(43)/RES/3,

(b) *Noting* with concern the lack of progress reflected in the Director General's report contained in document GC(44)/16 and his introductory statement of 11 September 2000 to the Board of Governors,

(c) *Recalling further* resolution 825 (1993) adopted by the Security Council of the United Nations on 11 May 1993 and 31 March 1994, 30 May 1994 and 4 November 1994 statements by the President of the United Nations Security Council, particularly the request to take all steps the Agency may deem necessary to verify full compliance by the Democratic People's Republic of Korea (DPRK) with its safeguards agreement with the Agency,

(d) *Noting* that the DPRK remains a party to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and *reaffirming* that the IAEA-DPRK safeguards agreement (INFCIRC/403) under the NPT remains binding and in force,

(e) *Noting also* the stated intention of the DPRK to come into full compliance with the safeguards agreement and the continuing IAEA-DPRK discussions on outstanding safeguards issues,

(f) *Noting* with regret that in these discussions no progress has been made on important issues such as the preservation of information,

(g) *Noting* that additional factors, as described in the Director General's report contained in document GC(44)/16 and in his introductory statement of 11 September 2000 to the Board of Governors, further underline the need for full and timely co-operation by the DPRK with the Agency in regard to the verification of the completeness and correctness of the DPRK's initial declaration,

(h) *Regretting* the withdrawal of the DPRK from the Agency and *expressing the hope* that the DPRK will rejoin, and

(i) *Welcoming* recent positive developments in north-east Asia and *expressing the hope* that they will open the way to progress towards full implementation of the relevant agreements,

1. *Strongly endorses* actions taken by the Board of Governors and *commends* the Director General and the Secretariat for their impartial efforts to implement the IAEA-DPRK safeguards agreement;

2. *Recognizes* the important role of the IAEA in monitoring the freeze of nuclear facilities in the DPRK and *commends* the Secretariat for its continuous efforts to monitor the freeze of specified facilities in the DPRK as requested by the United Nations Security Council;

3. *Notes* with continuing concern that, although the DPRK remains a party to the NPT, the Agency continues to be unable to verify the correctness and completeness of the initial declaration of nuclear material made by the DPRK and is therefore unable to conclude that there has been no diversion of nuclear material in the DPRK;

4. *Urges* the DPRK to come into full compliance with its safeguards agreement with the Agency, to co-operate fully and promptly with the Agency in the implementation of the safeguards agreement and to take all steps the Agency may deem

necessary to preserve all information relevant to verifying the accuracy and completeness of the DPRK's initial report on the inventory of nuclear material subject to safeguards until the DPRK comes into full compliance with its safeguards agreement; and

5. *Decides* to remain seized of this matter and include in the agenda for its forty-fifth regular session an item entitled "Implementation of the agreement between the Agency and the Democratic People's Republic of Korea for the application of safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons".

GC(44)/RES/27 — Implementation of United Nations Security Council Resolutions Relating to Iraq

The General Conference,

(a) *Recalling* United Nations Security Council resolutions 687, 707, 715 and 1051 and resolution 1284, which reaffirms the Agency's mandate in Iraq and provides the framework for the resumption of the Agency's activities in Iraq,

(b) *Recalling* further the resolutions of the thirty-fifth (1991), thirty-sixth (1992), thirty-seventh (1993), thirty-eighth (1994), thirty-ninth (1995), fortieth (1996), forty-first (1997), forty-second (1998) and forty-third (1999) General Conferences (GC(XXXV)/RES/568, GC(XXXVI)/RES/579, GC(XXXVII)/RES/626, GC(XXXVIII)/RES/19, GC(39)/RES/5, GC(40)/RES/21, GC(41)/RES/23, GC(42)/RES/3 and GC(43)/RES/22),

(c) *Taking note* of the Director General's report contained in document GC(44)/11, his introductory statement to the forty-fourth General Conference, his eighth and ninth consolidated six-monthly reports to the Security Council (GOV/INF/2000/9 and GOV/INF/2000/10) and his report to the Board of Governors (GOV/2000/35),

(d) *Noting with concern* that since 16 December 1998 the Agency has not been in a position to implement its mandate in Iraq under the relevant Security Council resolutions, and has thus been unable to provide any measure of assurance with regard to Iraq's compliance with its obligations under those resolutions,

(e) *Noting* that the Agency's physical inventory verification (PIV) took place in January 2000 and that the Director General stated in his report to the 44th session of the General Conference that "Iraq provided the necessary co-operation for the inspection team to perform its activities effectively and efficiently", pursuant to Iraq's safeguards agreement with the Agency in accordance with the Treaty on the Non-Proliferation of Nuclear Weapons; *noting*, however, that this PIV had the limited objective of verifying nuclear material under safeguards in Iraq and cannot serve as a substitute for the Agency's activities under the relevant Security Council resolutions, and that the resumption by the Agency of these activities is essential for the Agency to fulfil its mandate and to provide the necessary assurances sought by the Security Council,

(f) *Concerned* that the Agency has not received from Iraq the semi-annual declarations required by the Agency's ongoing monitoring and verification plan, which were due on 15 January 1999, 15 July 1999, 15 January 2000 and 15 July 2000, and which are the principal means for Iraq to provide information regarding the current use and any changes in the use of certain facilities, installations and sites and regarding the inventory and location of certain materials, equipment and isotopes, and

(g) *Noting* that the status of the Agency's technically coherent picture of Iraq's past clandestine programme has not evolved in the last year, and that provided the Agency could satisfy itself that Iraq's past and present nuclear activities have not changed since December 1998, remaining questions and concerns about Iraq's past nuclear programme would not prevent full implementation of the Agency's ongoing monitoring and verification plan,

1. *Commends* the Director General and the Agency's Action Team for their strenuous efforts to implement Security Council resolutions 687, 707, 715, 1051 and 1284 relating to Iraq;

2. *Calls upon* Iraq to implement in full all relevant Security Council resolutions, including resolution 1284, and in this

regard to co-operate fully with the Agency and to provide the necessary access to enable the Agency to carry out its mandate;

3. *Urges* Iraq to submit without further delay the semi-annual declarations required by the Agency's ongoing monitoring and verification plan;

4. *Requests* the Agency, on return to Iraq, to focus initially on regaining a level of knowledge of the status of Iraq's nuclear-related assets required for the full implementation of the Agency's system of ongoing monitoring and verification, and *also requests* the Agency to continue to identify and investigate remaining questions and concerns mentioned in preambular paragraph (g), along with any other aspect of Iraq's clandestine nuclear programme that may come to its knowledge;

5. *Welcomes* the Agency's work to update its operational plan and the fact that the Agency remains prepared to resume implementation of its ongoing monitoring and verification plan at short notice;

6. *Welcomes* the ongoing co-ordination and contacts between the Agency and UNMOVIC, including the reconstitution of the joint import/export mechanism; and

7. *Requests* the Director General to report the views of the General Conference to the Secretary-General of the United Nations and to report to the Board of Governors and to the forty-fifth regular session of the General Conference on his efforts to implement Security Council resolutions 687, 707, 715, 1051 and 1284 and *decides* to remain seized of this issue.

GC(44)/RES/28 — Application Of IAEA Safeguards in the Middle East

The General Conference,

(a) *Recognizing* the importance of the non-proliferation of nuclear weapons - both globally and regionally - in enhancing international peace and security,

(b) *Mindful* of the usefulness of the Agency's safeguards system as a reliable means of verification of the peaceful uses of nuclear energy,

(c) *Concerned* by the grave consequences, endangering peace and security, of the presence in the Middle East region of nuclear activities not wholly devoted to peaceful purposes,

(d) *Welcoming* the initiatives regarding the establishment of a zone free of all weapons of mass destruction, including nuclear weapons, in the Middle East and recent initiatives regarding arms control in the region,

(e) *Recognizing* that full realization of these objectives would be promoted by participation of all States of the region,

(f) *Commending* the efforts of the Agency concerning the application of safeguards in the Middle East and the positive response of some States in concluding a full-scope safeguards agreement, and

(g) *Recalling* its resolution GC(43)/RES/23,

1. *Takes note* of the Director General's report in document GOV/2000/38-GC(44)/14;

2. *Affirms* the urgent need for all States in the Middle East to forthwith accept the application of full-scope Agency safeguards to all their nuclear activities as an important confidence-building measure among all States in the region and as a step in enhancing peace and security in the context of the establishment of a nuclear-weapon-free zone (NWFZ);

3. *Calls upon* all parties directly concerned to consider seriously taking the practical and appropriate steps required for the implementation of the proposal to establish a mutually and effectively verifiable NWFZ in the region, and invites the countries concerned to adhere to international non-proliferation regimes, including the Treaty on the Non-Proliferation of Nuclear Weapons, as a means of complementing participation in a zone free of all weapons of mass destruction in the Middle East and of strengthening peace and security in the region;

4. *Takes note* of the importance of the ongoing bilateral Middle East peace negotiations and the activities of the multilateral working group on Arms Control and Regional Security in promoting mutual confidence and security in the Middle East, including establishment of a NWFZ, and calls on the Director General, as requested by the participants, to render

all necessary assistance to the working group in promoting that objective;

5. *Requests* the Director General to continue consultations with the States of the Middle East to facilitate the early application of full-scope Agency safeguards to all nuclear activities in the region as relevant to the preparation of model agreements, as a necessary step towards the establishment of a NWFZ in the region, referred to in resolution GC(XXXVII)/RES/627;

6. *Calls upon* all States in the region to extend their fullest co-operation to the Director General in the fulfilment of the tasks entrusted to him in the preceding paragraph;

7. *Further calls upon* all States in the region to take measures, including confidence-building and verification measures, aimed at establishing a NWFZ in the Middle East;

8. *Calls upon* all other States, especially those with a special responsibility for the maintenance of international peace and security, to render all assistance to the Director General by facilitating the implementation of this resolution; and

9. *Requests* the Director General to submit to the Board of Governors and to the General Conference at its forty-fifth regular session a report on the implementation of this resolution and to include in the provisional agenda for that session an item entitled "Application of IAEA safeguards in the Middle East".

ANNEX — Abbreviations of Sources

ACT:	<i>Arms Control Today</i>	LM:	<i>Le Monde</i>
AFP:	<i>Agence France Presse</i>	LP:	<i>La Prensa</i>
AP:	<i>Associated Press</i>	LT:	<i>Times [London]</i>
ASS:	<i>Asahi Shimbun</i>	M:	<i>Mena: Middle East Nuclear News Agency [Cairo]</i>
BBC:	<i>BBC Monitoring Summary of World Broadcasts</i>	MAS:	<i>Mainichi Shimbun</i>
CN:	<i>La Correspondence Nucléaire</i>	N:	<i>Nature</i>
CNN:	<i>Cable News Network</i>	NEI:	<i>Nuclear Engineering International</i>
Carnegie:	<i>Proliferation Brief of the Carnegie Endowment for International Peace</i>	NF:	<i>NuclearFuel</i>
CdS:	<i>Corriere della Sera [Italy]</i>	NG:	<i>Nezavisimaya gazeta</i>
ChI:	<i>Chosun Ilbo</i>	NN:	<i>Nuclear News</i>
CSM:	<i>Christian Science Monitor</i>	NNN:	<i>NucNet News</i>
DJ:	<i>Dow Jones Newswires</i>	NPR:	<i>National Public Radio News</i>
DP:	<i>Die Presse</i>	NW:	<i>Nucleonics Week</i>
DS:	<i>Der Spiegel</i>	NS:	<i>New Scientist</i>
DT:	<i>Daily Telegraph</i>	NYT:	<i>New York Times</i>
DW:	<i>Die Welt</i>	NZZ:	<i>Neue Zürcher Zeitung</i>
E:	<i>Economist</i>	O:	<i>Observer</i>
EP:	<i>El Pais</i>	PBS:	<i>Public Broadcasting System News Hour (TV)</i>
FAZ:	<i>Frankfurter Allgemeine Zeitung</i>	RFEARL:	<i>Radio Free Europe/Radio Liberty</i>
ff:	<i>freshFUEL</i>	R:	<i>Reuters</i>
FR:	<i>Foreign Report [UK]</i>	SCMP:	<i>South China Morning Post [Hongkong]</i>
FT:	<i>Financial Times</i>	SDZ:	<i>Süddeutsche Zeitung</i>
G:	<i>Guardian</i>	SF:	<i>SpentFUEL</i>
I:	<i>Independent</i>	SG-Sp:	<i>Secretary-General's Spokesman Daily Press Briefing</i>
If:	<i>Interfax News Agency [Moscow]</i>	SN:	<i>Salzburger Nachrichten</i>
IHT:	<i>International Herald Tribune</i>	StL:	<i>Standard [London]</i>
IT:	<i>Itar-TASS</i>	StV:	<i>Standard [Vienna]</i>
Izv:	<i>Izvestia</i>	ST:	<i>Sunday Times [London]</i>
JAI:	<i>JoongAng Ilbo</i>	UINB:	<i>Uranium Institute News Briefing</i>
JDW:	<i>Jane's Defence Weekly</i>	UPI:	<i>United Press International</i>
JFR:	<i>Jane's Foreign Report</i>	Ux:	<i>Ux Weekly</i>
JoC:	<i>Journal of Commerce</i>	VoA:	<i>Voice of America</i>
JP:	<i>Jerusalem Post</i>	WP:	<i>Washington Post</i>
KCNA:	<i>Korean Central News Agency [Pyongyang]</i>	WP/NWE:	<i>Washington Post National Weekly Edition</i>
KH:	<i>Korea Herald</i>	WT:	<i>Washington Times</i>
KT:	<i>Korea Times</i>	WSJ:	<i>Wall Street Journal</i>
KV:	<i>Kurier [Vienna]</i>	X:	<i>Xinhua News Agency [Beijing]</i>
LAT:	<i>Los Angeles Times</i>	Y:	<i>Yonhap [Seoul]</i>
Lib:	<i>Libération</i>	YOS:	<i>Yomiuri Shimbun</i>

The Programme for Promoting Nuclear Non-Proliferation and the Newsbrief

The **Newsbrief** is part of the outreach effort which constitutes a major element of the Programme for Promoting Nuclear Non-Proliferation (PPNN). It is addressed to an audience interested in the subject of nuclear (non-)proliferation, to inform and help them alert their respective environments to the issue of nuclear non-proliferation.

The **Newsbrief** is published on behalf of PPNN by the Mountbatten Centre for International Studies, Department of Politics, University of Southampton. Communications relating to its content and other editorial matters should be addressed to Ben Sanders at 240 East 27th Street, New York, New York 10016, USA (Tel. 1 (212) 532-3153; Fax. 1 (212) 532 9847)

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Web site: <http://www.soton.ac.uk/~ppnn/>

Production by Richard Guthrie. Printed by Autoprint.

ISSN 0965-1667