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PROGRAMME FOR PROMOTING NUCLEAR NON-PROLIFERATION

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Editorial note

This issue of the **Newsbrief** covers developments relating to the non-proliferation of nuclear weapons that have occurred, or have come to the editor's attention, during the period January/March, 1993. For technical reasons, coverage had to end on 29 March.

The **Newsbrief** is published four times a year. It is part of the effort of the Programme for Promoting Nuclear Non-Proliferation (PPNN) to foster awareness of the issues related to the spread of nuclear weapons and of developments that may help constrain that spread. Based on publicly available material derived from reputable and generally reliable sources, the **Newsbrief** seeks to present an accurate and balanced picture of pertinent events, including relevant aspects of the peaceful uses of nuclear energy.

The limited size of the **Newsbrief** makes it necessary to choose among items of information and to present them in condensed and simplified form. Subheadings are chosen for ease of presentation and do not necessarily imply a judgment on the character of the events referred; related items of information may be combined under a single subheading, even though some might fit also into other categories of subjects identified in the **Newsbrief**.

The Executive Chairman of PPNN is the editor of the **Newsbrief** and is responsible for its contents. (An exception is **Newsbrief** Issue No. 20 [October/December 1992] for which he did not act as the editor). The inclusion of an item in the **Newsbrief** should not be taken as implying the agreement of the members of PPNN's Core Group collectively or individually, either with its substance or with its relevance to PPNN's work.

Readers who wish to comment on the substance of the **Newsbrief** or on the manner of presentation of any item, 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.

Unless otherwise stated, sources referred to in this issue date from 1993; in references from the last few months of 1992 the year is also omitted.

I. Topical Developments

a. Background

- The final declaration following the meeting of the CSCE Council of Ministers in Stockholm in December 1992 included the following statement: 'they [the Ministers] agreed that the [Non-Proliferation] Treaty should be extended indefinitely and urged all States that have not yet done so to become Parties to the Treaty'.

- On 12 March, the **Democratic People's Republic of Korea** (DPRK) notified the President of the United Nations Security Council of its intention to withdraw from the NPT. The announcement followed the demand made by the Board of Governors of the IAEA on 25 February, that North Korea should respond 'positively and without delay' to the Director General's request to allow the Agency to make a special safeguards inspection at two facilities that were thought to hold information relevant to North Korea's nuclear activities. On 18 March, the Board met again in an extraordinary session at which it decided to ask the Director General to continue negotiations with Pyongyang and report back to it on 31 March. China has meanwhile publicly stated that it opposed sanctions against North Korea and was against bringing the matter up before the Security Council. This makes it likely that if North Korea has still not granted the requested access by that date, and the Board duly brings the matter up before the Security Council, China will block any proposal to take action against Pyongyang. Several states in the area, including China and Russia, apparently feel that the crisis has been unnecessarily escalated by the demand for special inspections and by the US decision to proceed with military manoeuvres; many states are said to believe that a careful diplomatic approach to the matter is currently the best course. It is

Table of Contents

Editorial note 1
I. Topical Developments 1
a. Background 1
b. NPT Events 3
c. Other Non-Proliferation Developments 3
d. Nuclear Disarmament 3
e. Nuclear Testing 5
f. Nuclear Trade and International Cooperation 5
g. IAEA Developments 6
h. Peaceful Nuclear Developments 6
i. Events in Nuclear-Weapon States 10
j. Events in the Commonwealth of Independent States 11
k. Developments of Concern for Horizontal Proliferation 12
II. PPNN Activities 16
III. Other Non-Governmental Groups Active in Related Areas 17
IV. Recent Publications 17
V. Documentation 17
a. IAEA Board of Governors Reviews Agency's Inspections in the Democratic People's Republic of Korea (DPRK) 17
b. Russian—U.S. HEU Agreement 18
VI. Comments from Readers 20

noted that without Chinese support, trade sanctions against Pyongyang would lack effect, since the bulk of its trade is with China.

- The announcement of North Korea's intention to withdraw from the NPT has caused widespread alarm for its regional repercussions and for its possible negative impact on the global non-proliferation regime and the NPT. Reportedly, in an informal meeting between North Korea and American diplomats in Beijing, the latter conveyed Washington's concern at North Korea's move. Japan has 'strongly urged' North Korea to retract its announcement. The Republic of Korea (ROK) has announced the suspension of trade with North Korea. While Seoul took the opportunity to affirm its determination not to obtain its own nuclear capability, there is said to be a feeling among right-wing politicians and the military, that this policy should be reconsidered. The joint US–South Korean military exercise 'Team Spirit' — which diplomats in China, Japan and Russia consider to have been the predictable trigger to the present crisis — ended on 18 March; there is some hope that this may present an opening for Pyongyang to consider a change in its announced plans. For a summary of events preceding the announcement of North Korea's withdrawal, see below **k. Developments of Concern for Horizontal Proliferation**; sources of information on current developments are listed there.

- The President of **South Africa** has affirmed that for fifteen years his country had a nuclear-weapon programme and that it had manufactured six bombs and was working on a seventh when it decided to discontinue the programme. Mr. de Klerk stated that after he took office, in 1989, the weapons were dismantled, the fissionable material was downgraded and the enrichment plant was closed, prior to South Africa's accession to the NPT in 1991. He further asserted that the country had not carried out any nuclear tests — thus denying the claim that a flash recorded in 1979 over the South Atlantic signalled a South African weapon test. The United States Administration, which had urged South Africa to acknowledge its previous nuclear-weapon effort, has expressed satisfaction with that country's candour but is said to seek more information to make sure that all remaining highly-enriched uranium has been declared and all weapons have been destroyed. It reportedly also seeking clarification about any cooperation South Africa may have had with other countries in the development of its nuclear weapons. For some further details, see below **k. Developments of Concern for Horizontal Proliferation**; sources of information on current developments are also given there.

- At the **United Nations**, Under-Secretary-General Vladimir Petrovsky (Russia), hitherto in charge of Political Affairs, which covers matters relating to disarmament, including non-proliferation, has become Director-General of the United Nations Office at Geneva. He was replaced by Marrack Goulding (UK). The Secretary-General is holding consultations on the relocation to Geneva of units of the Office of Disarmament. (**The New York Times**, February 3; **UN Press Release** SG/SM/4938, 9 March; **Direct Information**)

- The Signing Conference of the **Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction** (CWC) was held in Paris on 13 and 14 January. So far, approximately 140 states have signed. CWC provides for the elimination of all stocks of chemical weapons within ten years as well as the destruction of any weapon production facility that can produce quantities exceeding one ton of chemical; the prohibition of use 'under any circumstances'; and the prohibition of development, production and transfer. It contains stringent verification procedures, including challenge inspections, to be administered by an Inspectorate that is part of the Technical Secretariat of the Organization for the Prohibition of Chemical Weapons (OPCW); this will be based at the Hague, the Netherlands. The CWC does not affect obligations assumed under the 1925 Geneva Protocol; states parties to both instruments remain bound by that Protocol if they withdraw from the Convention. The CWC will enter into force 180 days after ratification by 65 states but not before January 1995. A Preparatory Commission met in the Hague on 8 February, to start the groundwork for the actual implementation of the Convention and, among other things, prepare decisions on organizational, administrative and financial issues relating to the setting up of the OPCW.

Algeria, **Tunisia**, **Morocco** and **Mauritania** have signed the CWC, but most Arab states have indicated that they do not intend to sign until Israel has acceded to the NPT. Libya, which had earlier said it would sign, did not do so.

At the conference **Israel**'s Foreign Minister, Shimon Peres, said that his country seeks to curtail the arms race and prevent the proliferation of destabilizing weapons. He called for arms control negotiations and arrangements to include all the states of the Middle Eastern region and, among other things, for a 'mutually verifiable zone free of surface-to-surface missiles and of chemical, biological and nuclear weapons'.

With effect from 7 January, the Missile Technology Control Regime includes guidelines extending its scope to missiles capable of delivering biological and chemical weapons.

American and German intelligence sources say that **Libya** is building a second chemical weapons plant inside a hill near Tarhuna, 40 miles from Tripoli. US officials expect that the plant will begin operations late this year. The US estimates that as much as 100 tons of chemical weapons are stored at Rabta, Libya's first chemical-weapon factory. (**Chemical Weapons Convention Bulletin** [Quarterly of the Harvard-Sussex Program on CBW], Issue 18, December; **UNIDIR Newsletter** No. 20, December; **European Wireless File News Alert**, January 8; **Defense News**, January 11-17; **Mideast Mirror** and **Die Presse**, 12 January; **The Wall Street Journal** [Europe], **The Guardian**, **Financial Times**, **Frankfurter Allgemeine Zeitung**, 13 January; **Daily Telegraph**, 13, 14 January; **Le**

Monde, 13, 14, 16 January; **Der Standart, Die Presse, Reuter Information Services, Inc., Corriere della Sera**, 14 January; **Süddeutsche Zeitung**, 14, 16 January; **The Independent** and **The Times** [London], 16 January; **Embassy of Israel**, Washington D.C., January 21; **Jane's Defence Weekly**, 30 January; **The New York Times**, January 14, February 18; **Trust and Verify**, Vertic, No. 35, January/February)

b. NPT Events

- The accession to the NPT by **Myanmar** (formerly **Burma**), reported in **Newsbrief** 20 as 'direct information', and confirmed by the Ministry of Foreign Affairs at Rangoon on 3 December, brought the number of accessions in 1992 to nine — others being Azerbaijan, China, Estonia, France, Namibia, Niger, Slovenia and Uzbekistan. (**Radio Burma**, 3 December, in **JPRS-TND-92-047**, 18 December; **IAEA Newsbriefs**, Vol. 8, No. 1(58), January/February)

c. Other Non-Proliferation Developments

- On 9 December 1992 the Foreign Ministers of **Argentina** and **Brazil** formally inaugurated the headquarters of ABACC, the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials. A spokesman at the Argentine Foreign Ministry has said that the Congress was set to ratify the Tlatelolco Treaty in March. Brazil's Foreign Minister is said to be ready to assume 'an active stance' to gain approval of the Treaty and the safeguards agreement with Argentina, ABACC and the IAEA. (**TELAM** [Buenos Aires], 10 December in **JPRS-TND-92-048**, 23 December); **IAEA INFCIRC/416**, 11 January; **Nucleonics Week**, February 25)

- For the second year in succession **India** and **Pakistan** have exchanged lists of nuclear installations, pursuant to the agreement in which they pledged not to attack each others' nuclear facilities. (**Islamabad Radio**, 4 January, in **JPRS-TND-93-002**, 15 January)

- **Japan** will link future assistance to **Pakistan** to that country's nuclear activities. As reported, part of its aid package, amounting to $400 million, will be transferred following talks in December in which Pakistan reiterated its peaceful intentions, but future aid will be withheld until the nuclear issue is resolved. Japan is said to have offered to mediate in nuclear matters between India and Pakistan and has made proposals to both with regard to nonproliferation. (**Nucleonics Week**, December 31; **Reuter Information Services, Inc.**, February 13)

- In **Japan**, apparently in response to international criticism evoked by that country's policy of reliance on the use of plutonium for its future energy production and the recent sea transport of 1.5 tons of plutonium from France, there seems to be support for a revival of earlier ideas for the international management of plutonium. In the early 1980s, proposals were worked out in the IAEA for the storage of plutonium under international supervision (IPS). In early December there was an informal intergovernmental meeting on the subject in Vienna, under the auspices of the IAEA. The Japanese government is said to consider the possibility of including some fuel cycle facilities in a programme of this nature. (**Japan Times**, December 30; **Nucleonics Week**, February 4; **Direct Information**)

- In the **United States**, non-proliferation measures were added to some budget authorizations adopted last year. The foreign aid bill allocating $417 million for assistance to former Soviet republics restricts eligibility to governments that establish 'responsible policies and practices regarding the non-proliferation of nuclear and other weapons.' In the same bill a new section on nuclear non-proliferation policy in South Asia encourages the President to pursue regionally negotiated nuclear non-proliferation in that area. The President must report on this matter by 1 April 1993 and every six months thereafter and must also report on the nuclear and ballistic missile programmes of China, India and Pakistan, including the question whether a country possesses a nuclear explosive device or all of the components necessary for one. In the appropriation for the Department of Defense, the Iraq Sanctions Act of 1990 has been extended to cover Iran and is now called Iran-Iraq Arms Non-Proliferation Act of 1992. It makes it U.S. policy 'to oppose, and urgently seek the agreement of other nations also to oppose, any transfer to Iran or Iraq of any goods or technology...[that] could materially contribute to either country's acquiring...nuclear weapons.' (**Arms Sales Monitor**, [Federation of American Scientists], Issue No. 18, 15 January)

d. Nuclear Disarmament

- At a summit meeting in Moscow, on 3 January, Presidents Bush and Yeltsin signed 'the Treaty Between the **United States of America** and the **Russian Federation** on Further Reduction and Limitation of Strategic Offensive Arms' (START-2), under which they undertake to reduce the numbers of their deployed strategic nuclear warheads in two phases. During phase one, to be completed within seven years after the entry into force of START-1, each side must reduce the number to 3,800–4,250, including those on ICBMs and submarine-launched ballistic missiles as well as warheads delivered by heavy bombers. Of those, no more than 1,200 may be on MIRVed ICBMs, 2,160 on SLBMs and 650 on heavy ICBMs. During the second phase, which should be achieved by 2003, or earlier if the US can help Russia dismantle its strategic weapons, each side must reduce its total deployed strategic nuclear warheads to 3,000–3,500. At the end of that phase both sides are allowed to have only single-warhead ICBMs. The number of SLBM warheads is to be no more than 1,700–1,750; those may be single-warhead missiles or be MIRVed. The agreement reflects concessions on both sides. For reasons of economy Russia may keep its remaining 105 SS-19 missiles in the original silos, while reducing their six warheads to one. Similarly, it may use 90 of the 380 silos it has for its heavy (ten-warhead) SS-18s, which are to be eliminated, for the deployment of SS-25s. The silos will be altered so that SS-18s cannot be reinserted. The US will permit one-time Russian access to the bomb bay of the B-2, to assess its weapon-carrying capacity. While START-2 obliges Russia to give up its heaviest land-based missiles (against which the US eliminates 50 MX missiles), it permits the US to retain

1,726 warheads on MIRVed SLBMs — half the present number.

Prospects for approval of START-2 in the US Senate were said to be good, notwithstanding some criticism of concessions made to Russia, to help President Yeltsin overcome opposition in the Russian Legislature. This opposition goes very much along the lines of those who now seek President Yeltsin's removal and includes its speaker, old-type communists and right-wing nationalists, and military and industrial interest groups, who accuse Mr. Yeltsin of having allowed the US to gain the strategic edge; observers doubt that in Russia's current constitutional crisis, either treaty concessions or American promises of increased financial and technical help with the dismantling of the weapons will suffice to overcome that resistance, and the chances of early ratification are seen as dim. Russian media have dwelt extensively on the negative impact they think the treaty will have for Russia's security, and of the high costs of its implementation.

Russia has announced that its navy no longer has nuclear tactical weapons. (**International Herald Tribune**, December 28, 29, 30, January 4; **New York Times**, December 29, January 2, 3, 4, 10; **Kurier**, 2, 4 January; **Salzburger Nachrichten**, 3 January; **Frankfurter Allgemeine Zeitung**; **The Independent**; **The Daily Telegraph**; **Die Welt**; and **The Wall Street Journal**, all January 4; **The Guardian**, January 4, 5; **European Wireless File News Alert**, January 5, 8; **Defense News**, January 11-17; **The Washington Post National Weekly**, January 11-17, 25-31; **Time**, January 18; **Trust and Verify**, Vertic, No. 35, January/February; **The Washington Post**, February 5)

- In any case, observers do not see either country putting START-2 into effect until the three former Soviet republics on whose territories strategic nuclear weapons are deployed meet the undertaking, laid down in a protocol to START-1 signed in Lisbon on 23 May 1992, to give effect to that treaty, destroy or turn over to the Russian Federation the warheads in the strategic nuclear missiles on their territories and join the NPT as non-nuclear weapon states. The parliament of **Kazakhstan** approved START-1 in December, although there are reports of disagreements between that state and Russia on the details of the removal of the missiles. The parliament of **Belarus** approved the treaty on 4 February, by 218 votes to 1, with 60 abstentions; on that occasion it also approved the country's accession to the NPT. **Ukraine** is widely criticized for its delay in giving effect to these obligations, despite many assertions that it will do so. Some hard-line nationalists and ex-communists in Kiev advocate retaining the weapons (there are 130 SS-19 and 46 SS-24 missiles stationed on Ukrainian territory) for political and strategic advantage, including their use as a deterrent in case of a conflict with Russia, although without the launching codes, which are in Russian custody, they cannot be launched. Some among the Ukrainian leadership are said to believe that the possession of nuclear weapons would enhance Kiev's national stature. Due mainly to resistance from Ukraine, a two-day summit meeting in Minsk, in January, of the member states of the Commonwealth of Independent States was unable to agree on Russia's proposal to assume central control over nuclear weapons, once Belarus, Kazakhstan and Ukraine formally become nuclear-weapon-free states. However, the main factor in Ukraine's hesitation to formally and practically adopt non-nuclear status is said to be its hope of increasing the amount of economic assistance it might get as a price for relinquishing its present 'administrative control' over the missiles; the wish to obtain security guarantees is seen as another reason. Apparently, Kiev has advised the USA that it would need $1.5 billion to pay for the removal of the missiles; it is said to demand that 46 SS-24 missiles be dismantled inside Ukraine, to claim title to the nuclear material in them and to expect to be compensated for its value. Nuclear officials in Kiev have announced that pending an agreement on compensation, Ukraine will retain the option of using plutonium in its VVER reactor fuel — this, reportedly, in order to strengthen its claim for compensation by making it clear that it does not consider the plutonium from weapons as waste material. Ukraine's Prime Minister Kutschma, has said that if no agreement can be reached on compensation, he would consider selling the plutonium on the world market; among potential customers mentioned is Japan. Kutschma is also quoted as saying that the US' offer of assistance was welcome but insufficient. While maintaining the position it announced before, that it would not try to obtain Ukraine's denuclearisation with financial incentives, Washington did initially offer to assist with $175 million in the removal and dismantling of the weapons; it has since reportedly raised this to $225 million. It is also said to have expressed willingness to give security guarantees, as has the United Kingdom. In a mid-January meeting with Ukrainian President Kravchuk, President Yeltsin offered Russian security guarantees against nuclear and conventional attack, if Ukraine ratifies START-1 and accedes to the NPT. Reportedly, however, Kiev has rejected these offers and is now seeking undertakings from Russia that it will under no circumstances cut off energy supplies or apply other means of economic pressure. President Kravchuk is quoted in the press as saying that negotiations within the Commonwealth are going on, and has repeated his promise to seek ratification of START-1. Media reports suggest that the Ukrainian parliament, which had been expected to deal with the matter in February or March, would ratify the treaty once it considers the compensation adequate, but the head of the Foreign Affairs Commission of the parliament is quoted in the British press as saying that the present constitutional crisis in Russia would prevent his country joining the NPT. (**Moscow TV Ostankino, First Program Network**, 27 November and **Kiev Ukrainian TV**, 3 December, both in **JPRS-TND-92-047**, 18 December; **Arms Control Today**, December; **Holos Ukrayiny**, 16 December, in **JPRS-TND-92-048**, 23 December; **Nucleonics Week**, December 31; **Wall Street Journal**, December 31, January 7; **The Daily Telegraph**, 5 January; **Kiev TV**, 5 January, and **Moscow Radio Rossii**, 6 January, in **JPRS-TND-93-002**, 15 January; **The Economist**, January 9th; **The Washington Post National Weekly Edition**, January 11-17; **The New York Times**, January 7, 11, 16, February 5, 11; **Financial Times**, December 30/31, January 8, 11, 16/17; **The Christian Science Monitor**, January 12,

14; **Die Presse**, 16, 29 January; **Defense News**, January 25-31; **The Guardian**, January 5, 22, 23; **The Times** [London], 16, 23 January, 5, 9 February, 24 March; **Neue Zürcher Zeitung**, 25 January; **Kurier** and **Süddeutsche Zeitung**, 29 January; **NuclearFuel**, February 1; **Frankfurter Allgemeine Zeitung**, 5 February; **International Herald Tribune**, January 16/17, February 5; Letter of 11 February from Belarus to the Conference on Disarmament, **CD/1182**; Sergei Kiselyov, 'Ukraine: Stuck With the Goods', **The Bulletin of the Atomic Scientists**, Vol. 49, No. 2, March 1993)

- Talks are being held between Russian and American officials on the safety, security and dismantling of nuclear weapons. These 'SSD Talks' serve as a means to allocate the $800 million US grant-in-aid for the dismantling of weapons of mass destruction in the former Soviet republics. The Clinton administration is keen to see the weapon dismantling proceed as fast as possible, but the exercise is slowed down considerably by internal Russian problems. The funds made available by the Congress — for which the authorization is expected to be renewed — are not being dispensed as speedily as planned, mainly, it seems, because Russia refuses direct US involvement in the dismantling process. A shipment of $200,000 worth of nuclear emergency response equipment has arrived in Russia, the first of six shipments. Belarus and the USA have agreed to set up a hotline to exchange data on the implementation of START. The Pentagon will provide $2.3 million, plus equipment and personnel for this purpose. (**European Wireless File News Alert**, January 25; **Jane's Defence Weekly**, 30 January; **Defense News**, February 1–7; **NuclearFuel**, March 1; **The New York Times**, March 10)

e. Nuclear Testing

- At a meeting of the 10-nation Economic Cooperation Organization, in Quetta, Pakistan, the representative of **Kazakhstan** announced that his government had closed the test site at Semipalatinsk, mainly, it seems, for environmental and health reasons. (**Nucleonics Week**, February 25)

f. Nuclear Trade and International Cooperation

- **Argentina** has concluded an agreement with the **United States** which enables it to obtain advanced computer equipment, nuclear technology and aeronautical equipment. A memorandum of understanding provides for strict control on exports. The fact that the development of the Condor-II medium-range ballistic missile has been virtually halted (with missile components being sent to **Spain** for destruction) is thought to have added to US willingness to enter into the agreement. Argentina hopes eventually to join the Coordinating Committee on Export Controls (Cocom). (**The New York Times**, February 13, March 7)

- **Canada** and the **United States** have concluded an agreement that allows the former to export uranium to **Taiwan** through the United States. Taiwan does not have a full-scope safeguards agreement with the IAEA but it reportedly does have a bilateral nuclear agreement with the US which ensures that the material will remain under safeguards. (**Globe and Mail**, March 8)

- **China** intends to develop a 600-MW advanced pressurized water reactor (APWR) — economical, safe and easy to operate — for export to developing nations. It wants to co-operate on the project with the US firm Westinghouse. Preparations for the construction of the 300-MW PWR at Chashma in **Pakistan** are proceeding; the plant should be completed in 1999. Ground work started in late 1992 and it is expected that the first concrete will be poured in mid-1993. (**Kyodo** [Tokyo], 10 December, in **JPRS-TND-92-048**, **Nucleonics Week**, December 17; **Enerpresse Commentaire** 5732, 4 January; **ENS NucNet** News No. 36/93, 20 January)

- **China** and the **Russian Federation** have signed a memorandum of understanding regarding the purchase of two VVER-1000 reactors. Russia will grant China a credit of $2,500 million to finance construction. Talks about the supply of the low enriched uranium fuel are still going on. (**ITAR-TASS**, 16 December, **JPRS-TND-92-048**, 23 December; **Nucleonics Week**, December 31)

- Assertions in **Indian** news media that **France** would continue to provide the fuel for the Tarapur Atomic Power Plant, even though India had not accepted safeguards on all its nuclear activities, have been denied by the French Foreign Ministry, whose spokesman affirmed that the acceptance of full-scope safeguards was a condition of supply of French nuclear fuel to any country. The Indian press also reported that a French Government spokesman had said that Paris respected India's view that the NPT was unrealistic and that it could not be expected to sign that treaty, as talks to replace it by 1995 were to start in 1993; the spokesman was also reported to say that France and India would have regular consultations on NPT renegotiation. Rectifying these reports, the aforementioned denial by the Quai d'Orsay also repeated France's support, formally expressed by its Minister for Foreign Affairs in the UN General Assembly, for the indefinite extension of the Treaty, without any changes. (**Indian Express** [Delhi], 8 November, in **JPRS-TND-92-045**, 7 December; **The Hindu** [Madras] 16 November in **JPRS-TND-92-046**, 11 December; **Correction from French Ministry of Foreign Affairs**, 16 November; **Direct Information**, 10 February)

- **Pakistan** and **France** have agreed to co-operate on the peaceful uses of nuclear energy; the agreement is said to be 'connected in no way to the issue of a nuclear power station'. Last November, the Pakistani press, citing a statement by the French Ambassador in Islamabad, claimed that an agreement for the supply of a power reactor was to be signed soon. It recalled that in 1990 President Mitterand committed himself to sell Pakistan a 600-MW reactor. Since then, however, France imposed the condition that Pakistan should first submit all its nuclear activities to 'full-scope' safeguards. (**The Nation** [Islamabad] 30 November, in **JPRS-TND-92-048**, 23 December; **Enerpresse**, No. 5759, 10 February; **Direct Information**, 10 February)

- **Russia** and **Iran** are reported to have signed a nuclear co-operation protocol providing for Russian help in the construction of a nuclear power plant, a research reactor and training. (**Al-Hayah** [London], 25 November, in **JPRS-TND-92-046**, 11 December - see also **Newsbrief** No. 20, Winter 1992, p.5)

- There is a report that **Russia** has offered to sell **Japan** highly enriched uranium from its dismantled nuclear weapons, but that Japan has said it has enough HEU to cover its needs until the year 2000. (**Kyodo** [Tokyo], 25 November, in **JPRS-TND-92-045**, 7 December)

- An agreement on the sale by **Russia** to the **United States** of high-enriched uranium (HEU) from its dismantled weapons was signed on 18 February. A difference with an earlier version is that the 500 metric tons, of which ten tons will be purchased in each of the first five years and thirty tons annually for the next fifteen, will be blended down in Russia and supplied as low-enriched uranium. Press reports have it that the HEU will be shipped as 20% U-235 and downgraded in the US to 5% or less. The price does not yet seem to have been agreed. A US demand that Ukraine should be reimbursed for the HEU from its weapons is said to complicate final agreement. Russia sees this as interference in its affairs and maintains that it will still have to store the plutonium pits from Ukraine's weapons, and that, if it were to reimburse Ukraine, it would have to treat Belarus and Kazakhstan the same way. Another issue is whether the Russian parliament will have to approve the agreement. The text of the agreement is reproduced under **V. Documentation**. (**NuclearFuel**, February 1, March 1)

- **Russia** will sell to the **United States** 44 kilograms of plutonium 238 for use in space research. The two countries have also agreed on the supply by Russia of electromagnets and other components for the superconducting super collider which is being constructed in Texas. (**International Herald Tribune**, December 29; **European Wireless File News Alert**, January 7)

g. IAEA Developments

1. General

- David B. Waller has succeeded William J. Dircks as Deputy Director General in the Agency's Department of Administration. Both are from the United States. (**IAEA Press Release** PR 92/38, 16 December)

- On 22 December, the **Czech Republic** and the **Slovak Republic**, as successor states to the former Czech and Slovak Federal Republic, notified the IAEA that they would, in the near future, present to the Agency their respective statements concerning membership in the Agency and that they intended to be considered parties by virtue of succession to the CSFR to the NPT safeguards agreement and a range of conventions and agreements related to nuclear energy to which the CSFR was a party. They also announced that they would continue to apply with respect to the designation of safeguards inspectors simplified designation procedures and agreed to the designation to their Republics of all inspectors currently designated to the CSFR.(**IAEA INFCIRC/417**, 13 January)

- An article in **The Washington Post** of 24 December depicted the International Centre for Theoretical Physics (ICTP) at Trieste, which is jointly operated by the IAEA and UNESCO, as an institution where scientists from developing nations could do research related to nuclear weapons, missile systems or other military technologies. An IAEA press release describing the article as misleading points out that there is little in the Centre's programme that could be of real use for anyone interested in building nuclear weapons, that no courses or research occur in uranium enrichment, reprocessing or the production of heavy water, that the work is closely supervised and that scientists typically stay briefly. The press release calls it 'mischievous, misleading and malevolent' to suggest by inference that the IAEA would permit misuses of the Centre in ways that would run counter to its non-proliferation mission. (**IAEA Press Release** PR 93/2, 8 January; **Enerpresse**, 29 January)

2. Safeguards

- At its February meeting, the Board of Governors authorized the Secretariat to implement its proposals for a system of universal reporting on the export, import and production of nuclear material, specified equipment and non-nuclear materials commonly used in the nuclear industry, as a means of strengthening the Agency's safeguards system. Under this scheme, states will report on exports and imports of these items and on their production of nuclear material. The list of items prepared by the IAEA Secretariat is reportedly seen as a starting point, subject to change. The procedure starts out as voluntary in the hope that it will eventually develop into a world-wide scheme. (**Nucleonics Week**, March 4; **Direct Information**)

h. Peaceful Nuclear Developments

- Western assistance for reactors in Eastern Europe and the CIS is taking shape. On 27 January the G-7 economic summit group unanimously agreed to create a fund to improve the safety of nuclear reactors in Eastern Europe and the former USSR. The initial contribution of about $75 million comes from France, Germany and the EC. Total contributions may reach $700 million. The Nordic countries have announced they will also subscribe. The contribution of the US which, with Japan, seems to be least well disposed to the establishment of the fund, is not yet known. Japan has announced that it will contribute $12 million over three years, starting this year, supplementing its bilateral assistance. As the commitments made so far have reached the level of 60 million ECU, the fund has now become operational. The first beneficiaries are expected to be Bulgaria and Slovakia, which have first-generation VVER-440 Model 230 reactors, among which Bulgaria's Kozloduy units are considered to be in worst shape. The EC has so far spent $13 million there. Electricité de France will be in charge of Western utility assistance to Kozloduy, along with Nuclear Electric (UK), and will increase its aid to Bulgaria's new electric utility company. (**Reuter Information Services, Inc.**, January 26; **Associated Press**, January 27; **The New York Times**, January 29; **Süddeutsche Zeitung**, 30

January; **Nucleonics Week**, January 28, February 4, 18, March 25; **Enerpresse** No. 5753, 2 February; **ENSNucNet**, News No.80/93, 18th February)

- The worsening energy situation in **Armenia** has moved the government to consider restarting the two first-generation VVER-440 reactors, which were shut down for safety reasons in 1989. The Armenian parliament has voted to cancel its resolution of last year in which the re-opening of the reactor station was conditioned on a public referendum. The government claims that the frequent electric blackouts may cut the power needed to keep the plant in a safe shutdown state. It has asked Turkey to supply electricity to relieve the fuel crisis, which was worsened by an explosion in the gas pipeline from Georgia, which it blames on Azerbaijan. The IAEA disagrees with the contention that the energy crisis necessarily threatens the safety of the idled reactors, as do German and Russian experts. The Agency is confident that the reactor fuel could be temporarily cooled by the use of oil-fired generators or hand-operated pumps; if nothing is done, it would presumably still take some weeks before the cooling water becomes too hot. Armenia seems to use the argument to strengthen its appeals for Western help. The IAEA is concerned, however, about insufficient plant maintenance and has offered assistance in that respect. (**Nucleonics Week**, December 31, February 4, March 25; **Reuter Information Services, Inc.**, 25, 27 January; **Frankfurter Allgemeine Zeitung**, 29 January, 16 February; **Kurier**, 30 January; **Neue Zürcher Zeitung**, 31 Jan/1 Feb) — see also below: Bulgaria.

- **Bangladesh** is reconsidering its nuclear-power project, in the light of high costs and the scarcity of financing and technical expertise. (**Nucleonics Week**, January 28)

- In **Bulgaria**, Kozloduy-2, an old-type VVER-440 Model 230 power reactor, shut down in 1991 for safety upgrading, is back on line for one operating cycle and said to be working well. Unit 3, a second generation VVER-440, has been restarted after refuelling but will be stopped later for completion of its upgrade programme. Units 5 and 6 are also operating again, after electrical repairs. Only unit 1 is still shut down for upgrading. The VVER-440 units at Kozloduy belong to a group of ten reactors of this type in Eastern Europe and in the CIS, all of which the IAEA says have serious safety deficiencies. The fact that Western European experts agreed with Bulgarian authorities that Kosloduy-2 is safe to operate for a limited time is taken as Western recognition that, contrary to original views, these reactors may be safely operated for some more years. The Bulgarian press is expressing concern that reactor fuel supplies are running low, as are the funds available to buy fuel. (**Otechestven Vestnik**, 7 December, in **JPRS-TND-92-048**, 23 December; **Nucleonics Week**, December 31, January 14, 21, March 4)

- In **Brazil** it is expected that construction of the Angra-II power reactor, a 1309-MW PWR supplied by Siemens, which is about 80% completed, will be resumed, but completion of Angra-III, which is 40% ready, is said to be doubtful. Observers note that President Itamar Franco is an opponent of nuclear energy. (**Die Welt** and **Süddeutsche Zeitung**, 25 January; **Nucleonics Week**, January 28)

- The government of the **Czech Republic** has approved plans for the completion of two VVER-1000 power reactors at Temelin; the decision was delayed by problems arising out of the separation of the two component parts of the former Czech and Slovak Federal Republic. Westinghouse engineers have started work on strengthening the infrastructure at the site. (**Nucleonics Week**, January 28, February 4 and 11)

- In an 11 to 6 decision, the Government of **Finland** has endorsed in principle the plan to build a fifth power reactor. This decision followed several years of domestic debate and needs parliamentary approval. The fact that shortly after the decision a feedwater pipe ruptured in one of Finland's VVERs has strengthened anti-nuclear protests. (**EnsNucNet**, News No. 95/93, 25th February; **Nucleonics Week** [Extra edition], February 26)

- In **France**, public hearings open on 30 March on relicensing the 1,240-MW Superphenix fast breeder reactor. There is a proposal to use the plant to burn excess plutonium rather than as a breeder. The 250-MW Phenix, which has not produced electricity for more than two years, has made a 12-day trial run, at two-thirds of thermal power, but the cause of the unexplained power-drops that resulted in the suspension of operations in 1990 has not been found. When these two facilities resume operation they will be the only two fast breeders in Western Europe. (**Agence France Presse**, 23, 24 December; **Le Figaro**, 26 December; **Enerpresse** and **ENS NucNet**, 28 December; **La Tribune**, 5 January; **Le Quotidien de Paris**, 26 December, 7 January; **Nucleonics Week**, January 7, February 11, 18, March 4)

- The future of **Germany**'s nuclear power programme, which has long been the subject of high-level discussions, and is now complicated by changes in the federal cabinet, has been made more doubtful by the resignation of the head of the leading nuclear utility, which is seen as a move towards more use of fossil-fuel plants. Chancellor Kohl has called for a resolution of Germany's nuclear energy policy by June, but some doubt this will be feasible, notwithstanding intensive attempts in Bonn to achieve consensus. There is pressure, especially from the Social Democratic Party, to phase out nuclear energy generation, and widespread opposition to spent fuel reprocessing. It appears that a decision for an orderly phase-out of existing reactors would be supported by the nuclear industry on the understanding that they will be replaced by a new generation of nuclear plant. The government of Hesse is reportedly 'unconditionally' opposed to fabrication of plutonium fuels at the Siemens fuel fabrication plant at Hanau. (**Nucleonics Week**, December 10, January 14, 21, February 18; **NuclearFuel**, February 15)

- During 1992, the Paks Nuclear Power Station in **Hungary** produced 50% of that country's electricity. The station contains four Soviet-designed VVER-440 units. (**ENS NucNet** News No. 11/93, 8th January)

- **India**'s current five-year (1992-97) nuclear plan provides for the construction of two 500-MW reactors at Tarapur (Maharashtra); four 220-MW units at Kaiga (Karnataka); two 220-MW units at Rajasthan and two 1,000-MW units at Kudankulam (Tamil Nadu). The government of Andhra Pradesh has also expressed interest in having two 500-MW reactors. It seems, however, that the budget does not provide the means to fund all these projects and a move to raise money through the sale of bonds has met with poor public response. Attempts are being made to persuade the states to contribute funds. (**Nucleonics Week**, December 31, March 11; **EnsNucNet**, News No. 77/93, 17th February)

- **Indonesia**, where electricity demand has risen sharply, is looking for uranium supplies and financing for its first 600-MW nuclear power unit, to be built in central Java. The plant should start operating in 2003. (**ENS NucNet** News No. 34/93, 20 January; **Reuter's**, February 15)

- **Iran** says it will complete the nuclear power plant at Bushehr, with or without German help. (**Süddeutsche Zeitung** and **The Guardian**, 16 February)

- In **Italy**, there are proposals to reopen the Caorso and Trino Vercellese power plants (respectively an 862-MW BWR and a 270-MW PWR), which were stopped in 1988. Reportedly, it would be technically possible to do so, but some modification would be needed. The moratorium on new nuclear construction adopted in a referendum in 1987 has officially ended. The government is encouraging the development of a new generation of reactors and industry is doing research in this area, together with American and European firms. (**Nucleonics Week**, December 10)

- On 5 January, after a 59-day trip that took it through the Indian Ocean and the Tasman Sea, **Japan**'s plutonium-carrying ship, the *Akatsuki-maru*, arrived at Tokai Port with 1.5 tons of plutonium from France. Amid great media interest, the vessel was received by large security forces which screened her from extensive but peaceful protest demonstrations on sea, along the shore and in the town. Unloading, which involved cutting the welded hatches, and an IAEA safeguards inspection, was completed the next day. Preparatory to its return to the original British owner, the ship is being refurbished, including dismounting a mechanism to immobilize the cargo in the event of a highjack. In the light of widespread concern about the sea transport and Japan's plans for the extensive use of plutonium in power generation, government and industrial authorities have acknowledged that not enough had been done to gain public understanding of Japan's plutonium policy. The government has let it be known that this policy is based on two principles: to have no more plutonium than is needed, and to give assurances of transparency, but they stress, that it is up to Japan to decide how to meet its energy needs. The next shipment — to provide further fuel for the prototype FBR Monju, the research FBR Joyo and the Advanced Thermal Reactor (ATR) Fugen — is said to be due in three to five years. A recent report in the British press says that Japan has abandoned plans to ship plutonium from the United Kingdom. Meanwhile, it seems that the time table for the introduction of breeder reactors is being reviewed. According to Japanese press reports, some construction plans are being postponed. Support for the idea of an international plutonium management scheme (IPM) under IAEA auspices is seen to be growing in Japan.

  There seems to be a problem about the timing of the return from France to Japan of the high-level radioactive waste left over after reprocessing. France wants to send the material, reportedly contained in 3,000 containers, during 1994, but Japan's waste storage facility is not expected to be ready until early 1995.

  Present plans call for a rise in Japan's nuclear power capacity from its present total of 33,000 MW to 45,500 MW in the year 2000 and 55,000 MW by 2010. In late January, the 1092-MW BWR Hamaoka-4 began trial operation. When commissioned in September, it will be Japan's 45th nuclear power unit in commercial operation.

  The criticality target for the Monju fast breeder reactor prototype has been postponed until October 1993, due to a delay in the fabrication of the initial fuel core. Plant performance preliminary tests began in February. Design problems are said to delay construction of the demonstration fast-breeder reactor, which was to begin operating in the latter half of the 1990s, to 2000 or later.

  A strong earthquake in northern Japan, on 15 January, which damaged railways and roads, did no harm to the two power reactors in the area, and did not affect operations at the Rokkasho fuel cycle complex nearby. (**Atoms in Japan**, Vol. 36, No. 11, November, Vol. 37, No. 1, January and Vol. 37, No. 2, February; **Plutonium: A Renewable Source of Energy**, Information booklet on Japan's Policy for Use and Plan for Transport of Plutonium, Ministry of Foreign Affairs, Japan, November; **The New York Times**, December 20, January 5; **Yomiuri Shimbun**, 28 December; **The Japan Times**, December 30; **Financial Times**, January 5; **The Independent** and **Frankfurter Allgemeine Zeitung** — both 5 and 6 January; **Le Monde**; **The Daily Telegraph**; **Kurier**; **Die Welt**; **Nihonkeizai Shimbun** — all 6 January; **Die Presse**, 31 December, 5, 7 January; **Süddeutsche Zeitung**, 1, 7 January; **Neue Zürcher Zeitung**, 7 January; **Mainichi Shimbun**, 8 January; **Enerpresse** No. 5737, 11 January; **Nucleonics Week**, January 7, 14, 21; **Reuter Information Services, Inc.**, 6, 26 January; **Associated Press**, January 26; **ENS NucNet**, News No. 50, 28 January; **The Guardian**, February 8; **Defense News**, February 8-14; **United Press International**, February 18)

- **Kazakhstan**, which has inherited an extensive nuclear research establishment from the former USSR, including the prototype fast breeder reactor BN-350, is considering the construction of a 1000-MW power reactor at Semipalatynsk, or possibly two medium-sized units. (**EnsNucNet**, News 71/93, 15th February)

- **Russia**, where in 1992 more than 10% of electricity was provided by nuclear energy, has adopted a 'conceptual programme' for the expansion of its nuclear capacity by

almost 16,500 MWe, to about twice the present capacity, by 2010–2015. The plan, which is still subject to an ecological review, provides for the early completion of three power reactors now under construction: Balakovo-4 and Kalinin-3 (VVER-1000s) and Kursk-5 (a 'modernized graphite-moderated, water-cooled reactor', i.e., a modified RBMK-1000). As reported, the new nuclear construction programme would further include three 32-MW graphite-light water reactors, and fifteen VVERs with enhanced safety features (four VVER-1000s; three VVER-630s; two Pilot V 630s and four VVER-600s), four 800-MW breeder reactors and four 500-MW district-heating reactors. Decommissioned units at Kola, Novovoronezh and Leningrad should be replaced and their sites extended. The plan also foresees the development of new reactor sites in the North West and the Far East.

The Russian plans are seen to reflect a change in public acceptance of nuclear power, which had been at an all-time low after the Chernobyl disaster of 1986. At the same time, there are reports of resistance to the completion of the RBMK unit at Kursk, which some experts say will not be safe even if modified, and would present an undesirable precedent for the continuation of the RBMK-line of reactors. That view was reinforced by two recent fires at Chernobyl, neither of them involving nuclear components, following one in November 1991, which damaged the generator room of one of the reactors.

The plans for the four large breeder reactors, three of which would be on line by the year 2001, have also run into opposition. Supporters claim that the BN-800 breeder provides a reliable, safe and efficient means of burning Russia's excess plutonium, in a thorium-232 blanket. The U-233 produced in this way would be mixed with U-238, to make fuel for VVERs. Critics hold that it is much more economical to burn excess plutonium as mixed-oxide fuel in VVERs than in breeders. There also seem to be doubts about the safety of Russia's breeder reactors.

A strong effort is planned to promote the export of nuclear fuel and technology, especially for the construction of power plants abroad, presumably under strict controls.

Senior Russian scientists, including nuclear experts, have set up an association called Thesaurus, to market research and consultancy services. The Russian Academy of Science and the Moscow Institute for Physics and Technology have joined as institutional members.

The Russian Ministry of Atomic Energy (Minatom) has developed a programme for managing spent nuclear fuel and radioactive waste up to 2005. The programme is said to include burying spent fuel from RBMK reactors in the permafrost under the surface of Novaya Zemlya Island, rather than reprocessing it.

Radioactive water has leaked from a power plant near Yekaterinburg in the Ural Mountains into a reservoir, but reports see no danger to people or the environment. (**International Herald Tribune**, December 29; **The Guardian**, 30 December, 14 January; **Ens NucNet** News No. 515/92, 30th December, No. 2/93, 4th January, No. 18/93, 13th January, No. 22/93, 14th January, No. 39/93, 22 January; **Reuter Information Services, Inc.**, 3, 4, 13 January; **The Washington Post**, January 13; **Associated Press**, January 13; **The Washington Post National Weekly Edition**, January 18/24; **Nucleonics Week**, January 14, 21, 28, February 4; **Financial Times**, 15 January; **NuclearFuel**, January 18; **Christian Science Monitor**, February 2)

- In **Sweden**, the two units of the Barsebaeck power plant, which are among five first-generation BWRs shut down for safety reasons, have been permitted to resume operations until their annual summer outage for maintenance and refuelling. This has caused anger in **Denmark**, which is thinking of suing for a shut-down of the plant. The Barsebaeck units, unit 1 of the Ringhals station and two units at Oskarsham were shut down when it was revealed that there was a potentially serious problem with their emergency cooling systems. At Oskarsham-1 the introduction of safety modifications will keep the plant closed for the immediate future. Ringhals-1 is also back on line. The Swedish Nuclear Power Inspectorate continues to review the safety of the plants. (**Ens NucNet** News No. 1/93, 4th January; **Frankfurter Allgemeine Zeitung**, 5 January; **Nucleonics Week**, January 7, 14; February 4, 11)

- **Taiwan** Power Co. has called for bids on two power reactors, of a capacity between 950 and 1,350-MW, to be built at Yenliao, in the northeast of the island. Invitations were reportedly sent to Asa-Brown Boveri, Westinghouse, GE and the Franco-German consortium NPI. (**Nucleonics Week**, January 28)

- There are contradictory reports from **Ukraine** about the future of the two 1,000-MW RBMK reactors still running at Chernobyl. There is pressure both within and outside the country to shut the plant down as soon as the winter is over. Kiev's Parliament had voted to shut them down by the end of the current year and Ukrainian authorities, including President Kravchuk himself, have given assurances that the plant would be decommissioned in 1993. A team of German safety experts who have studied the plant on behalf of the EC called it a fire-hazard and said it was unfit to operate by western safety standards. Germany's environment minister has also called for its speedy decommissioning. The plant operators, on the other hand, hope to use some of the G-7 funds to upgrade the emergency core cooling systems and so keep units 1 and 3 going even after 1993. It had been hoped that Chernobyl could be replaced by three VVER-1000 units, of which completion was held up by the 1990 moratorium on new nuclear plants. Reputedly, in the event of an acute energy crisis one of these could be commissioned in six months and the other two within 18 months. At present, apart from the two RBMKs at Chernobyl, Ukraine has ten VVER-1000s and two VVER-440s in operation with a total capacity of 12,818 MW, which provided 29.4% of its electricity in 1992.

The IAEA's International Safety Advisory Group has released a second report on the Chernobyl-4 accident of 1986 which, on the basis of information obtained since

the first report, in which most of the blame for the event was laid on the operators, finds that design factors played a greater role in the accident than previously known. The report refers to earlier accidents with this reactor type, which had indicated major weaknesses. Ukraine has asked for help in the construction of a new 'sarcophagus' around the remnants of Chernobyl-4. (**Nucleonics Week**, December 17, 31, January 14, February 25, March 4; **ENS NucNet** Background No. 6/93 and News No. 38/93 — both 21 January; **Reuter Information Services, Inc.**, February 22; **IAEA Newsbriefs**, Vol. 8, No. 1(58), January/February; **Kurier**, **Die Welt**, and **Süddeutsche Zeitung**, 23 February)

- In the **United Kingdom** THORP, the Thermal Oxide Reprocessing Plant at Sellafield, which has so far cost £4.3 billion, is ready for operation but has to wait while the British Inspectorate of Pollution decides on an application to make radioactive discharges from the site and considers incoming objections, including, it is said, over 100 from local authorities. In a letter to **The Economist** the Chairman of British Nuclear Fuels (BNFL) says that reports that THORP will not be put into use are unfounded; that firm orders worth £9 billion have been secured and construction costs have been largely paid for by advance payments from overseas customers; and that the plant is expected to attract at least £3 billion of foreign earnings and may be expected to make a profit of £500 million in its first ten years. Yet, doubts about THORP's future have grown in light of reports that Japan has abandoned plans to ship plutonium from Sellafield. Reportedly, some customers are unhappy about the contracts they have signed and are reconsidering their commitments. It is noted that the two British nuclear power companies are building dry storage facilities for spent reactor fuel. German operators also seem to prefer that option. A study on THORP's economics, made at Princeton University, says that operating the plant is not justifiable; the cost of decontaminating the plant after eventual decommissioning will be so high that it would be preferable to abandon it now. The report disputes the claim that THORP has binding contracts for the first ten years of operation and says that operating the plant could lead to serious losses. BNFL, adding to its Chairman's statement, has responded that THORP is an economic success and that failure to open THORP could cost Britain as much as £200 million a year for the next ten years in overseas revenue.

  There were a series of radiation leaks into the atmosphere from Sellafield in February from the mothballed B203 plutonium purification plant, which is due to be decommissioned, and the B6 building, one of the original Windscale piles. The leaks from B203 were termed by the Government as 'serious', but 'well within safety limits'. Those from B6 were primarily Iodine 129. The leaks are under investigation by the Nuclear Installations Inspectorate, Her Majesty's Inspectorate of Pollution and the Ministry of Agriculture, Fisheries and Foods. (**The Economist**, January 16th; **The Independent** and **The Times** [London], both 19 and 25 January; **The Guardian**, January 19, February 8; **Nucleonics Week**, February 18; Norman Moss, 'Thorp Flap', in **The Bulletin of the Atomic Scientists**, Vol. 49, No. 2, March 1993)

- Press reports in the **United States**, where nuclear energy accounts for 22% of electricity production, seem to show a more positive public attitude to nuclear energy. The nuclear industry is said to be encouraged to begin considering the construction of new power plants; by the year 2000, 40% of the 110 existing nuclear facilities will be more than 30 years old. There is talk of completing the construction of the two 1,263-MW PWRs of the Tennessee Valley Authority's Bellefonte power stations, mothballed in 1988, when one was 80% complete and the other about halfway.

  The new Secretary of the Department of Energy, Hazel O'Leary, has said that President Clinton 'opposes any increase in the nation's relying on nuclear power at this time', and has added that for now the US would have to look first at energy conservation and efficiency options, but she also said she was concerned about keeping the nuclear option open in case of need. The post of Assistant Secretary for Nuclear Energy is expected to be abolished. In seeking to cut expenses President Clinton has mentioned nuclear power R&D as an item that is 'no longer needed'.

  In response to concern about the security of nuclear plants, raised by the bombing of the World Trade Center in New York and the intrusion into the Three Mile Island nuclear plant by a deranged man who crashed his car through the gate to the protected area and hid for four hours in the turbine building, the US Nuclear Regulatory Commission is re-assessing the threat posed by truck bombs. (**Enerpresse**, No. 5737, 11 January; **ENS NucNet** Insider No. 4/93, 20 January; **The New York Times**, February 11, March 4, 21; **Nucleonics Week**, February 11, 18, 25)

i. Events in Nuclear-Weapon States

- Greenpeace has alleged that the **United Kingdom**'s Atomic Weapons Establishment at Aldermaston has an 'appalling safety record of unreported deaths and fires, radioactive leaks and worker contamination.' A report published on 25 January lists 58 accidents and safety-related incidents between 1955 and 1992, involving 100 workers injured and seven fatalities. Another nine persons are said to have died as a result of suspected radiation contamination. The report speaks of 252 fires, 45 of them supposedly serious. (**The Observer**, 24 January)

- In downsizing its nuclear-weapon activities, the **United States** Department of Energy (DOE) wants to concentrate the maintenance, processing and storage of tritium at Savannah River, South Carolina; at present, tritium is also treated in Ohio. A decision on the site of the new tritium-production reactor is not expected until 1995. Altogether, DOE's weapons-production work is done at 13 sites in 12 states; consolidation should bring substantial savings, once the old facilities have been decontaminated and decommissioned.

  DOE plans to concentrate the non-nuclear part of its nuclear-arms effort (now done in Colorado, Florida and Ohio) at the Bendix plant in Kansas City. As in the case

of the move of the tritium work from Ohio, these proposals (said to be intended to save $1.5 to $2 billion over the life of the plants) would involve the loss of many jobs and are resisted by politicians from the states affected.

At the Hanford Reservation near Richland, Washington, eight years after experts warned of explosions risks in tanks containing highly radioactive waste from plutonium production, it appears that the precise contents of many tanks are still unknown. According to recent press reports, since it was realized that the amount of plutonium in the tanks was grossly underestimated, some of them are being monitored to determine the chance of a nuclear reaction. The situation is complicated by the presence of chemicals added to force radioactive components to precipitate; these are said to be undergoing changes that produce flammable and explosive gases, and their quantities are no longer known because of repeated transfers between tanks. In late February, it was reported that about 7,500 gallons of radioactive waste had leaked from an old tank that was no longer monitored. It is not clear how and when the leak occurred and where the waste went.

Two companies that were unsuccessful in their bids to the Department of Energy for the contract to manage the clean-up at Hanford, have filed complaints with the General Accounting Office, alleging improper selection procedures. The Department has issued a stop work order, which prevents the firm selected from beginning its 'phase-in' on 1st March. A decision on the protests is due in June.

Congressional investigators have charged that the US Department of Justice did not adequately prosecute Rockwell International Corp. for the environmental crimes it committed as contractor for the Rocky Flats weapons facility. Allegedly, the Department prevented prosecutors in Colorado from pursuing some charges and blocked the preparation of a grand jury report that would have been made public. The case was eventually settled and Rockwell was assessed a $18.5 million fine; it has billed the Government for $7.9 million of its legal fees.

Plans of the Department of Defense, to orbit a Russian-built 'TOPAZ II' reactor to investigate its use for the generation of electricity for missile defence monitors in space and for long-distance propulsion, have been put off for six months. The delay will be used to assess scientists' claims that the test could interfere with astronomical observations.

- Early in January, the Department of Energy restarted the processing of plutonium-238 at the Savannah River nuclear complex. Pu-238 is a highly radioactive isotope used in generators to power deep-space missions. A launch of a vehicle equipped with a Pu-238 generator is planned for 1997. The production line was closed early in 1992, eight months after five workers were contaminated, and its safety is now said to have been improved at a cost of $100-million.

To ease public concern at plans to store the plutonium 'pits' from dismantled weapons at the Pantex plant in Texas, management has invited journalists and photographers to visit the site and note the care with which operations are conducted there. The 16,000 acre site, where nuclear weapons have been made since 1951, is expected by the end of the decade to be the burial ground for up to 20,000 plutonium spheres.

In a report issued just before the end of the Bush Administration, Vice-President Quayle, as head of the National Space Council, makes a strong plea for the development of weapons to interdict enemy use of space, including the deployment of observation satellites. The report does not mention space-based defence or the presumed need for anti-missile arms as a nuclear non-proliferation measure. Meanwhile, planners at the US Strategic Command are said to have begun work on computer models to aim nuclear weapons at potentially hostile third-world nations that have or are seeking weapons of mass destruction.

The US military are exploring non-lethal weapon technologies to inhibit the war-fighting capability of an opposing force with minimum cost in human lives. These could include laser guns, infrasound waves, supercaustics, antitraction technology, electromagnetic pulse generators, and various chemicals that would detonate munitions, prevent vehicle movements, disrupt communications, and disable or destroy optical and range-finding equipment. It is noted, however, that though theoretically non-lethal, the use of such devices might have a devastating impact on the human organism. Also, the acquisition of 'wide-area-pulse capability' as sought by the military to destroy an enemy's electronics, would supposedly involve the use of nuclear weapons in the atmosphere. (**The New York Times**, December 24, January 5, 8, 12, 15, 24, February 25, 28; **Nucleonics Week**, December 31; **New Scientist**, 2 January, **The Wall Street Journal** [Europe], January 6; **The Washington Post**, January 14)

j. Events in the Commonwealth of Independent States

- Starting this year, **Russia** plans to indemnify victims of nuclear pollution and start cleaning up contaminated sites. Reportedly, 300 billion rubles [about $580 million at the current rate–Ed.] are available for 1993, most of which is expected to go to the 1.3 million people affected by the Chernobyl disaster of 1986. The Chelyabinsk weapons site in the Southern Urals will only receive 18 billion rubles [$30 million] this year. The area was heavily contaminated by an explosion in 1957 of a holding tank for high-level radioactive waste at Kyshtym and a tornado which, in 1967, blew large quantities of radioactive dust and soil from the bottom of a nearby lake where radioactive waste had been dumped and which had dried up during a drought, onto the land around. It is now known also that daily operations especially at the Mayak plutonium complex contributed great amounts of radioactivity to the environment, as did atmospheric tests, some reportedly over inhabited regions. Russian sources are quoted as saying that since 1949 accidents and technical faults at Mayak caused more than 400,000 cases of radiation exposure. The area traversed by the river Techa, which has its headwaters around Chelyabinsk, is seen to be

particularly affected and its effluents have contributed greatly to the radioactive contamination of the Arctic Ocean. Criteria for indemnification still need to be worked out; difficulties arise especially with respect to claims for events that occurred long ago.

The area around the test site on Novaya Zemlya is polluted by radioactive products from more than 90 atmospheric tests, which are said to have deposited large amounts of unfissioned plutonium and waste products like strontium-90.

The IAEA has held a meeting in Oslo on problems arising from the dumping in the Barents and the Kara Seas of more than 200,000 cubic metres of radioactive waste by the Soviet Navy.

A report by Greenpeace claims that Soviet nuclear submarines had at least eight collisions with foreign vessels and that since 1961 there had been four partial meltdowns of submarine reactors. An 'Echo' class boat is reported to have exploded in 1985, during refuelling. The case of the Komsomolets, which sank in 1989 in 1,700 meters of water, supposedly with two nuclear torpedoes on board of which the casings are thought to be corroding, is causing concern in Norway. Ideas vary on how to deal with the situation. A Dutch proposal to raise the wreck is opposed because of its cost and the risk of the vessel breaking up. Others suggest sealing the wreck and leaving it in place. A Norwegian firm has proposed using cement for this purpose; Russian experts would use a special foam to sheathe the reactor and the nuclear weapons and absorb radiation leaks. Whatever the solution chosen, Russia says it will not be able to do without financial assistance.

The extensive decommissioning of outdated nuclear submarines (of which, reputedly, between 1989 and 1993, 80 were scrapped, with 80 more expected to be taken out of service in the next seven years) poses a particular problem. Many of the retired boats still hold all or part of their fuel and the Russian navy does not have the capacity to scrap more than a fraction of the decommissioned submarines. One provisional solution seems to be to seal the reactor compartments and float them at storage sites near naval bases. [This is not dissimilar to the British disposal policy–Ed.]

The location of three Russian facilities for the production and dismantling of nuclear warheads has been published. The main facility is a large plant at Nizhnaya Tura, north of Yekaterinburg (Sverdlovsk). Smaller plants have been identified at Penza, 350 km south of Nizhny Novogorod (Gorky) and at Yuryuzan, 85 km southwest of Zlatoust.

An interim storage structure for 40,000 fissile warhead components at Tomsk, in Siberia is in the design stage. It should hold roughly equal quantities of highly-enriched uranium and plutonium. The capacity is said to be less than expected, supposedly because of plans to dilute a large quantity of HEU and transfer it to the US. The fact that the facility is to be fire, earthquake and storm resistant and flood-proof, and designed for minimum interaction with the environment, does not seem to prevent local and regional resistance to the plan.

Russian reports speak of acute safety problems with the nuclear missiles in Ukraine. According to the deputy commander of the CIS strategic forces, maintenance work is overdue, warheads are stored under unsafe conditions, launch installations are defective and at some silos the security measures no longer function. Russian technicians are helping mend these shortcomings, but some are seen as no longer reparable. (**Nucleonics Week**, December 31, February 4; **West Australian**, January 4 quoting the **Chicago Tribune**; **NuclearFuel**, January 18; **International Herald Tribune**, January 23; **Süddeutsche Zeitung**, 25 January; **Reuter Information Services, Inc.**, January 19, 22, 28; **Associated Press**, January 23, 28; **Frankfurter Allgemeine Zeitung**, 29 January; **Kurier**, 30 January; **The Bulletin of the Atomic Scientists**, Vol. 49, No. 1, January/February and Vol. 49, No. 3, April; **IAEA Press Release**, PR 93/3, 1 February; **The Economist**, February 13th; **Salzburger Nachrichten** and **Die Presse**, 17 February; **The Daily Telegraph**, 18 February; **The New York Times**, February 26)

k. Developments of Concern for Horizontal Proliferation

- A member of the parliament of **Armenia** has declared that his country was working on 'weapons of retribution', viz. bombs and artillery shells filled with radioactive waste from nuclear reactors. Azerbaijan has asked the UN to obtain an official explanation from Yerevan. The report has been denied by a spokesman for Armenia's president. (**SNARK** [Yerevan] 2 December, in **JPRS-TND-92-047**, 18 December; **TURAN** [Baku] 17 December, in **JPRS-TND-92-048**, 23 December; **TRUD** [Moscow], 29 December, in **JPRS-TND-93-002**, 15 January)

- In **Brazil**, the Nuclear Energy Association, an organization of nuclear professionals and nuclear companies, is opposing the submission of Brazilian nuclear activities to international safeguards and has asked President Franco not to ratify the agreement with Argentina and the IAEA. It is also lobbying the Brazilian congress against approval. There are reports that the country's 'parallel' (secret and unsafeguarded) nuclear programme, which was stopped by President Collor, is getting under way again. (**O ESTADO DE SAO PAOLO**, 6 November, in **JPRS-TND-92-045**, 7 December; **ISTOE SENHOR**, 11 November, in **JPRS-TND-92-046**, 11 December)

- Even before the **Democratic People's Republic of Korea** renounced the NPT, the nuclear situation in that country was causing grave concern. In Senate hearings on 24 February, the new Director of Central Intelligence, R. James Woolsey, stated that US intelligence had indications that North Korea was 'hiding evidence of some nuclear weapons-related activities' and that there was a possibility it already had enough plutonium to make at least one weapon. Earlier, it was disclosed that American satellite intelligence pointed to the existence of two facilities near Yongbyon, not notified to the IAEA, where reprocessing waste might be buried, indicating that

North Korea had been engaged for some time in an effort to produce and extract plutonium, and had not declared its entire plutonium inventory to the IAEA, as it should have done under its safeguards agreement. During their sixth inspection in North Korea, Agency inspectors asked to see those sites, one of which had reportedly been visited the year before, without anything suspicious being found. This time access was not granted, in apparent contradiction of Pyongyang's undertaking to the IAEA's Director General, that Agency 'officials' could 'visit' any North Korean site they wished to see (note: apparently, the terms 'inspectors' and 'inspections' were not used.) Analyses of the isotopic composition of a plutonium sample, which North Korea said was separated in 1990 from damaged fuel irradiated in its 5-MW reactor, reportedly led the IAEA to believe that North Korea had reprocessed spent fuel from the reactor on three occasions: in 1989, 1990 and 1991; North Korea said that it had done so only in 1990; subsequently it also admitted having reprocessed a small quantity of plutonium in 1975, which it said came from uranium irradiated in a Soviet supplied research reactor. Although experts reputedly did not accept that claim, it would indicate that North Korea may have had up to twenty years of reprocessing experience.

The inconsistency in the isotopic content of the fuel sample and the information on the presence of radioactive waste at the two undeclared sites are said to have prompted the Director General on 9 February to ask North Korea to be allowed to make a 'special inspection' of the two facilities, initially setting 18 February as the date after which he would refer the matter to the IAEA's Board of Governors. On 13 February, Pyongyang denied the request, saying that the IAEA was being used by the US to spy on military objects (North Korea maintains that the two sites are conventional military bases); that the installations were not subject to IAEA inspection; that the allegation that it had 'suspicious facilities' was a lie; that accepting inspection of 'suspicious objects' would be a precedent for the opening of military bases in all non-nuclear states; and that the Agency had no right to act on information received from a third country. In a statement on the occasion of the February meeting of the IAEA's Board, the DPRK delegate further said that his country was being forced to 'adopt self-defensive measures to safeguard [its] sovereignty' — a statement the American press saw as a threat of war; it also said that the Agency was putting the safeguards agreement at risk. At the Board session, the North Korean Minister for Atomic Energy confirmed Pyongyang's rejection of the special inspection. Initially, there seems not to have been consensus in the Board on a proposal to take the matter to the Security Council at this stage. Western members strongly supported an early special inspection, if necessary under the aegis of the Security Council, but this view does not seem to have been shared by all members. A Russian source was quoted as saying that it would be politically unwise at this stage to put Pyongyang under pressure; even some US officials apparently held that in pushing a special inspection now the IAEA might risk being barred from inspecting the core of the 5-MW reactor, which was due to be shut down in April; analysis of the spent fuel could have helped determine how long the reactor had been in operation and whether the DPRK had separated more plutonium than it had acknowledged. On the other hand, the IAEA did not seem to expect that access to the reactor core would have quickly resolved the issue. At the end of its two-day discussion, on 25 February, the Board gave North Korea one month to comply with the demand for a special inspection of the two sites and decided to meet again no later than 25 March to consider the response and possible 'further measures'. The Board's resolution is reproduced under **V. Documentation**. North Korea promptly stated that it would not accede to the Board's demand. Observers speculate about the motivations for Pyongyang's intransigence: whether it is mainly prompted by a wish to hide non-declared plutonium and production facilities or by concern that granting this access would set a precedent for ever more intrusive inspections. There is a suggestion that the move is a demonstration of toughness on the part of the son of Kim Il Sung, Kim Jong Il, who appears in the process of taking over authority from his father. Another factor might be anger at the resumption of the US–South Korean 'Team Spirit' exercises, which it appears some American authorities had hoped would help persuade Pyongyang to allow full inspection of its nuclear facilities. There is also a theory that Pyongyang's announcement of its renunciation of the NPT was meant mainly for domestic consumption, promoting a belligerent atmosphere that would serve the interests of the country's leadership.

On 25 January, nuclear talks between the two Koreas collapsed, when the delegation from the North reportedly refused to talk about anything other than the demand that the 'Team Spirit' exercises be cancelled. No date was set for the next meeting.

Russian reports claim that in October 1992, a group of 60 Russian engineers and technicians were stopped from travelling to North Korea to work on the latter's missile programme. In January, a Russian deputy foreign minister is said to have obtained the assurance that North Korea would refrain from recruiting Russian nuclear and missile specialists. (**Seoul KBS-1 TV**, and **Moscow Radio**, Korean Programme, 1 December, in **JPRS-TND- 92-047**, 18 December; **The Washington Post**, January 13, February 11, 25, March 21; **Reuter Information Services, Inc.**, January 25, February 17, 18, 25; **International Herald Tribune**, January 26, March 5; **The New York Times**, February 1, 9, 11, 14, 25, 27, March 12, 13, 17, 18, 19, 23, 24, 25; **The Guardian**, 2 February; **Nucleonics Week**, February 4, 11, 18, 25, March 18, 25; **Die Presse**, 11 February; **Financial Times**, 14 February; **The Independent**, 17 February; **The Christian Science Monitor** and **Associated Press**, February 25; **IAEA Press Release** PR/4, 16 February, and PR 93/5, 25 February; **NuclearFuel**, March 1; **Jane's Defence Weekly**, 6 February; **Senator John Glenn: News Release**, February 24, and supporting material; **The Economist**, March 20th; **Direct Information**)

- The Russian intelligence service asserts that both **India** and **Pakistan** have nuclear weapons. A report in an American periodical alleges that in 1990 India and Pakistan were on the brink of a nuclear war, which the

US Administration managed to avert. (**Süddeutsche Zeitung**, 29 January; **The Christian Science Monitor**, February 1; **US Senate Committee on Government Affairs**, hearing of 24 February: **Report by the Foreign Intelligence Service of the Russian Federation**; **The New Yorker**, March 29 — see also under **IV. Articles and Other Materials**)

- According to Western intelligence sources **Iran** is pursuing the acquisition of nuclear weapons and may succeed within 8–10 years. The German press cites an intelligence report saying that for the last ten years Iran has been building weapon-related nuclear research facilities, with equipment and material from China and, to a small extent, Europe. The report is said to describe research going on at five centres, the most important of which is Isfahan, where work is believed to be done both on enrichment and reprocessing. The Russian intelligence service also says that Iran has a programme of military-applied nuclear research. There are renewed allegations, citing both US intelligence sources and Iranian oppositionists, that Iran has obtained four nuclear weapons from Kazakhstan and/or Tadjikistan, i.e., two warheads from ballistic missiles, one gravity bomb and one artillery shell, all armed by Russian experts and ready for use. On the other hand, German media quote the head of that country's intelligence service as saying that there is no proof of the move of former Soviet warheads to Middle Eastern countries and it is not very likely. The Director of the CIA, Woolsey, has also said that there is 'no credible reporting' that nuclear weapons have left CIS territory.(**Welt am Sonntag** [Hamburg], 6 December, in **JPRS-TND-92-047**, 18 December; **Asian Bulletin**, December; **Kurier**, 24 January; **Deutsche Presse Agentur**, 27 December, in **JPRS-TND-93-001**, 7 January; **Die Presse** and **Süddeutsche Zeitung**, 25 January; **Nucleonics Week**, January 28; **The Christian Science Monitor**, February 1; **US Senate Committee on Government Affairs**, hearing of 24 February: **testimony of CIA Director** and **Report by the Foreign Intelligence Service of the Russian Federation**)

- In late 1992, **Iraq** resumed flights in the air exclusion zone imposed on it after the Gulf War. When one of its aircraft was shot down, it moved ground-to-air missiles and aircraft into the zone, prompting threats of retaliation. It then removed the missiles but, while a large UN inspection team was waiting to go to Baghdad, announced it would no longer tolerate the use of UN aircraft in its air space; inspectors implementing Security Council resolutions would have to use Iraqi airplanes or come in by road from Jordan. At about that time, also, it made an armed incursion into Kuwaiti territory, removing weapons and equipment. Both actions led to strong words from the Security Council, insisting on the UN's right to use its aircraft in implementation of armistice conditions and demanding the return of the items taken in Kuwait. When, thereupon, the USA and its coalition allies made an airstrike on Iraqi military objects, Baghdad conceded the UN's right to use its own aircraft, but added that it would be unable to guarantee their safety. This led to further accusations of non-compliance with armistice conditions and threats of reprisals, followed by a cruise missile strike on industrial objects. One target of this attack was the Al Nida plant at Zaafarniyah near Baghdad — termed a 'nuclear weapons factory' in the American press and called by Iraq a casting factory for machine parts. Some US sources see that attack as a demonstration of American doubt about the efficacy of international monitoring and the ability by the IAEA to identify a potentially dangerous installation. The IAEA, however, is said to have been well aware of the plant's existence and had identified it as a general-purpose machine tool factory used before the Gulf War to make, among other things, components for Baghdad's 'calutron' uranium enrichment effort. It had visited the plant four times; had tagged five milling machines to prevent their use; was planning to investigate it further and had tentatively earmarked some of the heavy machinery and lathes for eventual destruction. There is concern in UN circles that by taking such action to enforce armistice conditions which are the prerogative of UNSCOM to apply — an action judged to arise from scepticism, especially in the Pentagon, about the ultimate effectiveness of any action taken in the framework of the United Nations, and intended to demonstrate that the alternative to inspection is destruction — the US may jeopardize the application of the long-term monitoring plan, for which Iraq's cooperation is needed. After several further armed incidents, however, Baghdad, in a move described by some as a good-will gesture to the new US Administration, accepted the United Nations' demand for unconditional and unrestricted access. Yet, in late February, Iraqi anti-aircraft guns were seen to take aim on UN helicopters searching the area for undetected Scud missiles. A nuclear inspection team that operated in the country in January had reported getting all necessary assistance and finding 'efficient and effective' arrangements (a missile inspection team visiting Iraq shortly after also reported getting good local co-operation).

Having been given what Iraq said was 90% of the information on suppliers which the IAEA had long sought, Agency inspectors asked for the rest, but Iraqi officials reportedly said they were willing to answer questions and give substantive information about its programme but that disclosing complete data about the firms involved would violate principles of confidential and sovereign trade. Meanwhile, investigations in the supposed supplier countries have added to the knowledge about Iraq's procurement and nuclear work. Particularly in Germany, information was found on the way in which Iraq made and ran its centrifuge enrichment equipment; one German manufacturer has said that welding equipment produced by it, which was used by Iraq in making centrifuge rotors, was not specially made for that purpose. Some information has also come to light about assistance Iraq has received in designing equipment. A New Jersey company has been accused in the US Congress of having served as an American branch of 'Euromac', a London-based company thought to have been part of Iraq's nuclear procurement network. In the UK, investigations are continuing into the supplies allegedly made by the machine-tool firm Matrix-Churchill. Part of Iraq's procurement network is still deemed to be intact and the IAEA continues to seek the names of all overseas suppliers. The outgoing CIA director, Gates, has said

that Iraq should be expected to continue to pursue its programme regardless of sanctions and inspection and his successor, Woolsey, has underlined that Iraq retains key nonfissile materials and equipment, such as centrifuge drawings (sic), machine tools and expertise that it could use to rebuild a centrifuge-based uranium enrichment effort. The leader of the IAEA's inspection team, Dr. Maurizio Zifferero, is quoted in the media as saying that western intelligence believes that if economic sanctions were lifted and UN monitoring ended, Iraq could in five to seven years get its nuclear programme back to where it was before the Persian Gulf War and develop an atomic bomb within several more years. He is also quoted as saying that the likelihood of the existence of an undiscovered reactor for the production of plutonium is very low. According to Dr. Zifferero, preliminary tests on water samples tended to indicate that there had been no nuclear activity in Iraq for the last two years. As reported, he also said that the team's work had been hampered because it was difficult to obtain leads from Western governments about further Iraqi sites, and that this might mean either that the IAEA had discovered everything or that Iraq was 'outfoxing' the Agency and the information system. US intelligence agencies are believed to be hesitant about passing on information for fear of leaks.

The IAEA's inspections in Iraq and Dr. Zifferero himself have been the target of criticism in American media. One singularly hostile article in the **New Yorker** magazine of February 1 personalised the issue with a number of **ad hominem** allegations against Dr. Zifferero, accusing him among other things of timidity and having given the Iraqi's time to spin a web of deception which is claimed now to be too thick to penetrate. The same article asserted that he carelessly tipped of the Iraqi authorities to several surprise inspections. Reportedly, the US Senate has asked for an investigation into these assertions and about Dr. Zifferero's past work for the Italian Atomic Energy Commission where, as he himself has openly said, in the mid-1970s he took part in the sale of Italian nuclear equipment for Iraq's civilian programme. (**Arms Control Today**, Vol. 22, No. 10, December; **The New York Times**, January 7, 11, 16, 17, 18, 19, 21, 26, 27, 31; February 2, 13, 14, 16, 17, 19, 24; **The Washington Post**, January 11, 13, 18, 26, February 25; **Süddeutsche Zeitung**, 8, 11, 19 January; 1, 2, 4 February; **Financial Times**, January 11, 12, 18, 19; **Kurier**, 11, 19 January; **Der Standart**, 11, 19, 22 January; **The Times** [London], 11, 26 January; **The Daily Telegraph**, 11, 26 January; **Defense News**, January 11-17; **The Guardian**, 12, 18 January; **International Herald Tribune**, January 12, 18; **The Christian Science Monitor**, January 13; **European Wireless File News Alert**, January 13, 14, 15, 18, 22, 26; **Corriere della Sera**, 18 January; **Die Presse**, 19 January, 2 February; **Nucleonics Week**, January 21, March 11; **The Economist**, January 23rd; **Associated Press**, 26, 31 January; **The Wall Street Journal**, [Europe], January 28; **Jane's Defence Weekly**, 30 January; **Reuter Information Services, Inc.**, 31 January; David Albright and Mark Hibbs, 'Supplier-spotting', **The Bulletin of the Atomic Scientists**, Vol. 49, No. 1, January/February; **Nuclear News**, February; **US Senate Committee on Government Affairs**, hearing of 24 February: **testimony of CIA Director.**)

- Russia will assist the IAEA in removing and reprocessing **Iraq's** irradiated research reactor fuel, pursuant to UN Security Council resolution 687. (**ITAR-TASS**, World Service, 18 December in **JPRS-TND-92-048**, 23 December)

- **Israel** and the United States are said to be talking about the possibility of a stop to the production of weapons-grade plutonium at Dimona, in the Negev desert. The Russian foreign intelligence service estimates that Israel has up to 200 nuclear weapons and has produced a large amount of enriched uranium, by means of laser and magnetic isotope separation techniques. Israel's Atomic Energy Commission has confirmed that nuclear waste is stored at Dimona, from that facility and from the Nahal Soreq research centre. (**The Observer**, 31 January; **International Herald Tribune**, February 4; **Reuter Information Services, Inc.** and **Associated Press**, February 24; **Nucleonics Week**, March 4)

- There are reports that in **Lithuania** a container with 440 lbs of low-enriched uranium is missing from the Ignalina nuclear station. The plant's chief engineer has denied the report but investigations are under way. (**Associated Press**, February 25; **Salzburger Nachrichten, Die Presse, Süddeutsche Zeitung**, 26 February)

- According to a **South Korean** periodical, in the late 1970s that country had a secret nuclear-weapon programme, intended to provide it with a deterrent against a North Korean attack, should the United States cut its forces in the South. The plans are said to have been shelved after the assassination of President Park Chung-hee. (**Jane's Defence Weekly**, 27 February)

- The announcement by **South Africa's** President, that his country had built six nuclear weapons but had since dismantled them and had discontinued its military nuclear programme, follows years of speculation about the country's clandestine nuclear efforts. As recently as last January, press reports quoted a document of the US Central Intelligence Agency (CIA) which had apparently been released in 1988 under the US Freedom of Information Act, according to which South Africa had an advanced nuclear-weapon programme. The document, reputedly obtained by the African National Congress (ANC), which had earlier claimed that South Africa had produced 'at least' 200 kg of highly enriched uranium (HEU), — an amount that is well within the limits of the quantities since estimated to have been produced — was said to ascribe the flash over the South Atlantic that was detected by a US 'Vela' satellite on 22 September 1979 to a South African nuclear test; a claim contradicting South Africa's assertion that it has not undertaken any nuclear tests. The matter was the subject of a letter from the European Editor of **Nucleonics Week**, Mark Hibbs, published in the **Frankfurter Allgemeine Zeitung**, which pointed out that much of the information newly cited in the press came from earlier issues of his publication, including an article about weapons research done at a site near Pretoria. The

letter said that the IAEA and the US (which had given the IAEA intelligence data) had extensive information about this facility, where IAEA inspectors had found equipment that pointed to the development of nuclear explosives. It also noted that earlier, in 1992, the US had tried to persuade South Africa to admit publicly that it used to have a secret research programme to make nuclear weapons. At that time, official South African sources refrained from comment about former research activities.

Even before South Africa's recent admission there were American press accounts of doubts among US nuclear experts that South Africa had indeed provided full data about its nuclear activities. One way in which reportedly the US Administration intends to deal with this issue is by offering to buy South Africa's HEU on condition that the US will be able to verify the completeness of the information provided, and to satisfy itself that no further enrichment is going on. Discussions between the two countries were expected to start in the period covered by this issue of the **Newsbrief**. Apparently, Pretoria would expect the material to remain under IAEA safeguards and be kept out of the American nuclear-weapon programme. Some reports say that South Africa hopes the US will supply it with low-enriched uranium fuel for its nuclear power plant at Koeberg, in return for weapons-grade uranium, in which case South Africa might stop operating its semi-commercial 'Z' enrichment facility, which it had found very expensive to run. (**SAPA** [Johannesburg], 22 December; **Sunday Star** [Johannesburg] 27 December, both in **JPRS-TND-93-001**, 7 January; **Inter Press Service**, January 7; **Frankfurter Allgemeine Zeitung**, 9, 27 January; **NuclearFuel**, February 15; **The Washington Post**, March 18; **The New York Times**, March 25; **The Times** [London] March 25 and 26; **The Independent**, 25 March; David Albright & Mark Hibbs in **The Bulletin of the Atomic Scientists**, Vol. 49, No. 3, April)

II. PPNN Activities

- On 26 January and 9 February Ben Sanders participated in meetings of the Programme Committee of the NGO Committee on Disarmament, preparing a major conference to be held at UN Headquarters, on 21-24 April. On 29 January he took part in a meeting of advisers to the Monterey project on International Organization in the area of Non-Proliferation. On 11 March he participated in a discussion on IAEA Safeguards at the Atlantic Council in Washington. He also attended the Inaugural Lecture which John Simpson delivered in Southampton, on 4 March, on 'Disarmament and Non-Proliferation: Swords into Ploughshares or Ploughshares into Swords?' John Simpson further lectured at the Royal College of Defence Studies, on 12 March, on arms reduction and non-proliferation. On 24 March he gave a lecture to DUNAMIS, St. James, Piccadilly, on 'How to Prevent Nuclear Proliferation'.

- On March 3, Darryl Howlett presented a paper, co-authored with John Simpson, on issues at the 1995 NPT Conference, at a conference in Madrid organized by the Peace Research Institute, Frankfurt and the Faculty of Political Science, University de Complutense.

- PPNN is holding a Workshop on 'Africa and Nuclear Non-Proliferation' in Harare, Zimbabwe on 1–4 April. The organisation of this meeting is being undertaken jointly by the Department of Political and Administrative Studies of the University of Zimbabwe and the Mountbatten Centre for International Studies of the University of Southampton. The aim of the Workshop is to consider how African security can be enhanced by strengthening regional and global measures to deter nuclear non-proliferation. The Workshop will be attended by representatives of approximately 20 African states; by members of the UN Expert Group considering methods for the de-nuclearisation of Africa; by some members of PPNN's Core group; and by other invited experts. Approximately a dozen papers on relevant topics will be presented in the course of the Workshop. As the disclosures of South Africa's nuclear armament and disarmament were made in the week preceding the Workshop, it is anticipated that this, plus verification matters associated with validating South Africa's current nuclear status, will be discussed at length during the Workshop. It is hoped to produce a bound volume of papers from the Workshop. Further details can be obtained from PPNN's Southampton office.

- PPNN will hold its Thirteenth Core Group meeting at the Chilworth Manor Conference Centre, University of Southampton, United Kingdom on 8 and 9 July. During this meeting, the Core Group will review the most salient changes in the nuclear non-proliferation context and regime. In association with this Core Group meeting, PPNN will hold an international seminar for government officials and diplomats on 'Issues at the 1995 NPT Conference'. Again, the intention is to make the papers from this seminar available as a bound volume.

- An updated and enlarged second edition of **PPNN Briefing Book Volume II**, edited and compiled by John Simpson and Darryl Howlett, was produced in March for use in PPNN regional and briefing seminars. The volume contains the texts of treaties, agreements and other relevant documents related to the nuclear non-proliferation regime. Copies of this second edition, which contains appreciably more material than the initial edition of 1990, will be made available to those attending its workshops and seminars during 1993 and 1994, starting with the meeting in Zimbabwe. It is anticipated that a final revision of Volume II will be produced in late 1994 for circulation to delegations attending the 1995 NPT conference.

- It is anticipated that the bound volume of papers arising from the November 1992 seminar in Japan will be available at the end of April.

- The dates for the Fourteenth PPNN Core Group meeting, incorporating a seminar on 'South Asia and Nuclear Non-Proliferation', have now been confirmed as 4-6 November. The meeting will be held at the Tormaline/Topaz Hotel in Kandy, Sri Lanka.

- PPNN Study 4, **Nuclear Export Controls**, is now in the final stages of production. Distribution is expected in early May. It is hoped to produce a draft of PPNN Study 5, **Nuclear Security Guarantees and Assurances as a Method of Reinforcing the NPT**, in time for review at the July PPNN Core Group Meeting. PPNN is also hoping to produce further volumes in its Issue Review series, if finance can be obtained for this purpose.

III. Other Non-Governmental Groups Active in Related Areas

- On 15–16 March, Princeton University and Tokai University jointly held a workshop entitled 'Nuclear Disarmament and Non-Proliferation' in Tokyo. The workshop included participants from Japan, Germany, Russia, the United Kingdom and the United States.

- On Friday 19 March, *Asahi Shimbun*, a leading Japanese newspaper, held a symposium in Tokyo on 'Plutonium and Japan's Choice'. The meeting was attended by 400 people.

- The Stockholm International Peace Research Institute held a press conference in Stockholm on 1 March to launch the book 'World Inventory of Plutonium and Highly Enriched Uranium, 1992' by David Albright, Frans Berkhout and William Walker. The book is the culmination of years of work into this subject.

IV. Recent Publications

- Books:

David Albright, Frans Berkhout and William Walker, **World Inventory of Plutonium and Highly Enriched Uranium, 1992**, (Oxford: Stockholm International Peace Research Institute/Oxford University Press, 1993), 237 pp.

James Brown (ed.), **Challenges in Arms Control for the 1990s**, papers presented at a symposium on 'Issues and Challenges of Verification' held at Southern Methodist University, Dallas in April 1992; INSTEAD Center for Verification Technology, Vrije Universiteit Amsterdam, VU University Press, Amsterdam 1992, 217 pp.

David Fischer, **1995: The Prospects for Ending the Proliferation of Nuclear Weapons**, (Aldershot: Dartmouth Publishing Company/United Nations Institute for Disarmament Research, 1993), 292 pp.

Alexander Kelle, **Deutsche NV-Politik in den 80er Jahren. Zwischen Regimezwängen und Wirtschaftsinteressen**, Studien zur Friedensforschung, Band 6, LIT Verlag, Münster, Hamburg, 1992, 178 pp. (See also under Articles and Other Materials)

Plutonium: Deadly Gold of the Nuclear Age, Study prepared by a special commission of International Physicians for the Prevention of Nuclear War and The Institute for Energy and Environmental Research, prepared under the direction of Howard Hu, Arjun Makhijani and Katherine Yih. International Physicians Press, Cambridge MASS, 1992, 178 pp.

- Articles and Other Materials:

David Albright & Mark Hibbs, 'South Africa: The ANC and the atom bomb', **Bulletin of the Atomic Scientists**, Vol. 49, No. 3, April, 6pp.

John Brook Wolfstahl, 'Nuclear-Weapon-Free Zones: Coming of Age?', **Arms Control Today**, Vol. 23, Number 2, March, 7 pp.

Zachary Davis and Warren H. Donnelly, 'Nuclear Nonproliferation Policy Issues in the 103rd Congress', **CRS Issue Brief**, updated January 19, 1993, Congressional Research Service, The Library of Congress, Order Code IB91023, 14 pp.

Seymour M. Hersh, 'On the Nuclear Edge', **The New Yorker**, March 29, 17 pp.

Alexander Kelle, 'German Nuclear Non-Proliferation Policy During the 1980s: A Case of Regime Compliance', **The International Spectator**, Vol. XXVII, No. 3, July-September 1992, pp. 101-119.

Kim Byungki, 'North Korea's Nuclear Policy in the Year 2000: Sources, Strategy and Implications for the Korean Peninsula', **The Journal of East Asian Affairs**, Vol. VII, No. 1, Winter/Spring 1993, pp. 32–57.

David A. Koplow, 'When is an Amendment not an Amendment? Modification of Arms Control Agreements Without the Senate', **The University of Chicago Law Review**, Vol. 59, Number 3, Summer 1992, The University of Chicago, 1992, 91 pp.

Harald Müller, 'The Forthcoming NPT Extension: A View from Germany', **Atoms in Japan**, February 1993.

Harald Müller, 'The Export Controls Debate In The "New" European Community', **Arms Control Today**, Vol. 23, No. 2, March, 4 pp.

William C. Potter, 'Nuclear Exports From the Former Soviet Union: What's New, What's True', **Arms Control Today**, Vol. 23, No. 1, January/February, pp. 3-10.

Tariq Rauf, (ed. and contributor), 'Regional Approaches to Curbing Nuclear Proliferation in the Middle East and South Asia', **Aurora Papers 166**, Canadian Centre for Global Security, Ottawa, December 1992, 134 pp.

John Simpson, 'A Positive Outlook for Non-Proliferation', **ATOM**, 626, January/February, pp. 44–6.

Leonard S. Spector and Virginia Foran, 'Preventing Weapons Proliferation — Should the Regimes be Combined? A report of the Thirty-Third Strategy for Peace, US Foreign Policy Conference, October 22-24', **The Stanley Foundation**, Muscatine Iowa, 36 pp.

Leonard S. Spector, 'The Nuclear Threat in the New World Order', in **The 1993 World Book Year Book** (the Annual Supplement to the World Book Encyclopedia), World Book Inc., Chicago, London, Sydney, Toronto 1992, pp. 56-67.

Victor Batiouk, 'Ukraine's Non-Nuclear Option', **UNIDIR Research Papers**, No. 14, UNIDIR/92/71, New York, 1992, 30 pp.

UNIDIR Newsletter No. 20, 'Never More: Chemical Weapons Convention', Geneva, December 1992, 96 pp.

V. Documentation

a. IAEA Board of Governors Reviews Agency's Inspections in the Democratic People's Republic of Korea (DPRK)

In the framework of its meeting in Vienna, February 22–25, the Board of Governors of the International Atomic Energy Agency (IAEA), consisting of representatives from 35 Members States, reviewed the status of the Agency's inspections in the DPRK. The review was conducted on the basis of a report presented by the Director General of the IAEA, Dr. Hans Blix. Representatives from the DPRK participated in the discussions.

The IAEA has so far conducted six inspection missions to the DPRK in performing its responsibilities to verify the

correctness and assess the completeness of the DPRK's nuclear inventory as declared in the IAEA last year.
The Director General recently requested special access to additional information and two sites in the DPRK under the articles of the safeguards agreement relating to special inspections in an attempt to clarify the reasons for inconsistencies that have emerged from the IAEA's analyses of samples and measurements. DPRK representatives have indicated willingness to provide more information.
At the conclusion of its discussion on this matter, the Board of Governors adopted the text of a resolution which is attached for information:
The Board of Governors,

(a) Having considered the Report of the Director General and the statements by the Representative of the Democratic People's Republic of Korea on the Implementation of the Safeguards Agreement between the Democratic People's Republic of Korea and the International Atomic Energy Agency.
(b) Taking account of the rights and obligations under the Safeguards Agreement between the Democratic People's Republic of Korea and the International Atomic Energy Agency (INFCIRC/403).
(c) Taking serious note of the significant inconsistencies between the Democratic People's Republic of Korea's declaration and the Secretariat's findings resulting from ad hoc inspections and sample analysis which remain unresolved despite extensive discussions.
(d) Noting that on February 9, 1993 the Director General, acting on the basis of Articles 73(b) and 77 concerning special inspections, has formally requested the Democratic People's Republic of Korea to grant access to specific additional information and to two locations.
(e) Recalling that at its December 1992 session, the Board reiterated the need for full and effective implementation of the Safeguards Agreement voluntarily entered into by the Democratic People's Republic of Korea and had called for full cooperation on the part of the Democratic People's Republic of Korea's authorities.

1. Calls for full and prompt implementation of the Safeguards Agreement between the Democratic Peoples Republic of Korea and the International Atomic Energy Agency;
2. Stresses that it is essential to verify the correctness and assess the completeness of the Democratic People's Republic of Korea's Initial Report;
3. Supports the actions already taken by the Director General in this regard;
4. Calls upon the Government of the Democratic People's Republic of Korea urgently to extend full cooperation to the International Atomic Energy Agency to enable the Agency fully to discharge its responsibilities under the Safeguards Agreement and to respond positively and without delay to the Director General's request of February 9, 1993 for access to additional information and two additional sites;
5. Decides that access to additional information and two additional sites, referred to in paragraph 4, is essential and urgent in order to resolve differences and to ensure verification of compliance with INFCIRC/403;
6. Requests the Director General to transmit this Resolution to the Democratic People's Republic of Korea, to continue dialogue with the Democratic People's Republic of Korea with a view toward urgent resolution of the issues above, and to report again to the Board of Governors on the matter not later than one month from the date of adoption of this resolution at a further meeting of the Board of Governors to be convened for this purpose;
7. Decides to remain seized of the matter, and to consider further measures as provided for in the Safeguards Agreement between the International Atomic Energy Agency and the Democratic People's Republic of Korea and Statute of the International Atomic Energy Agency.

b. Russian—U.S. HEU Agreement

The Government of the United States of America and the Russian Federation, hereafter referred to as the Parties.
Desiring to arrange the safe and prompt disposition for peaceful purposes of highly enriched uranium resulting from the reduction of nuclear weapons in accordance with existing agreement sin the area of arms control and disarmament,
Reaffirming their commitment to ensure that the development and use of nuclear energy for peaceful purposes are carried out under arrangements that will further the objectives of the Treaty on the Non-Proliferation of Nuclear Weapons of July 1, 1968,
Affirming their commitment to ensure that nuclear material transferred for peaceful purposes pursuant to this Agreement will comply with all applicable non-proliferation, material accounting and control, physical protection, and environmental requirements,
Have agreed as follows:

Article I: Purpose

The Parties shall cooperate in order to achieve the following objectives:

1. the conversion as soon as practicable of highly enriched uranium (HEU) extracted from nuclear weapons resulting from the reduction of nuclear weapons pursuant to arms control agreements and other commitments of the parties which is currently estimated at approximately 500 metric tons in the Russian Federation, having an average assay of 90 percent or greater of the uranium isotope 235 into low enriched uranium (LEU) for use as fuel in commercial nuclear reactors. For purposes of this Agreement, LEU shall mean uranium enriched to less than 20 percent in the isotope 235; and
2. The technology developed in the Russian Federation for conversion of HEU resulting from the reduction of nuclear weapons in the Russian Federation may be used for conversion of United States EU in the United States of America; and
3. The establishment of appropriate measures to fulfil the non-proliferation, physical security protection,nuclear material accounting and control, and environmental requirements of the Parties with respect to HEU and LEU subject to this Agreement.

Article II: Implementing Contracts and Agreements

1. The Parties, through their Executive Agents, shall within six months from entry into force of this Agreement seek to enter into an initial implementing contract to accomplish the objectives set forth in Article I of this Agreement. The Parties may conclude additional implementing contracts or agreements pursuant to this Agreement, as required. For any

purchase, the Executive Agents shall negotiate terms (including price), which shall be subject to approval by the Parties.

2. It is the intent of the Parties that the initial implementing contract shall provide for, *inter alia*:
   (i) The purchase by the United States Executive Agent of LEU converted from HEU at facilities in the Russian Federation and sale of the LEU for commercial purposes. The United States will provide information to the Russian Federation on all commercial disposition of such LEU;
   (ii) Initial delivery of LEU converted from HEU extracted from nuclear weapons resulting from the reduction of nuclear weapons pursuant to arms control agreements and other commitments of the parties by October 1993, if possible;
   (iii) Conversion of no less than 10 metric tons having an average assay of 90 percent or greater of the uranium isotope 235 in each of the first five years, and, in each year thereafter, conversion of no less than 30 metric tons of HEU having an average assay of 90 percent or greater of the uranium isotope 235; however, specific amounts will be stipulated in the first and subsequent implementing contracts;
   (iv) The participation of the U.S. private sector and of Russian enterprises;
   (v) The allocation among the United States of America, private sector firms of the United States of America, the Russian Federation, and Russian enterprises of any proceeds or costs arising out of activities undertaken pursuant to any implementing contract;
   (vi) The use by the Russian Federation side of a portion of the proceeds from the sale of LEU converted from HEU for the conversion of defense enterprises, enhancing the safety of nuclear power plants, environmental clean-up of polluted areas and the construction and operation of facilities in the Russian Federation for the conversion of HEU to LEU,
   (vii) By agreement of the Parties an equivalent amount of HEU can substitute for the corresponding amount of LEU planned for purchase by the United States Executive Agent.

Article III: Executive Agents

Each Party shall designate an executive agent to implement this Agreement. For the United States side the executive agent shall be the Department of Energy. For the Russian side the Executive Agent shall be the Ministry of the Russian Federation of Atomic Energy. After consultation with the other Party, either Party has the right to change its executive agent upon 30 days written notice to the other Party. If a governmental corporation is established under United States law to manage the uranium enrichment enterprise of the Department of Energy, it is the intention of the United States Government to designate that corporation as the Executive Agent for the United States side.

Article IV:Priority of Agreement

In case of any inconsistency between this Agreement and any implementing contracts or agreements, the provisions of this Agreement shall prevail.

Article V: Additional Measures

1. The Executive Agent of the Russian Federation shall ensure that the quality of LEU derived from HEU subject to this Agreement is such that it is convertible to LEU usable in commercial reactors. Specifications shall be agreed upon in the process of negotiating the initial and subsequent implementing contracts.
2. The conversion of HEU subject to this Agreement shall commence as soon as possible after the entry into force of the initial implementing contract.
3. The Parties shall, to the extent practicable, seek to arrange for more rapid conversion of HEU to LEU than that provided for in Article II (2) (iii).
4. The United States of America shall use LEU acquired pursuant to this Agreement and its implementing contracts and agreements, when subject to United States jurisdiction and control, for peaceful purposes only.
5. HEU and LEU acquired by the United States of America pursuant to this Agreement, and implementing contracts and agreements related to it, shall be subject to safeguards in accordance with the November 19, 1977 Agreement between the United States of America and the International Atomic Energy Agency (IAEA) for the Application of Safeguards in connection with the Treaty for the Non-Proliferation of Nuclear Weapons.
6. The Parties shall maintain physical protection of HEU and LEU subject to this Agreement. Such protection shall, at a minimum, provide protection comparable to the recommendation set forth in IAEA document INFCIRC/225/REV.2 concerning the physical protection of nuclear material.
7. If the Parties enter into an agreement for cooperation concerning the peaceful uses of nuclear energy, nuclear material acquired by the United States of America pursuant to this Agreement and its implementing contracts and agreements, when subject to U.S. jurisdiction or control, shall be subject to the terms and conditions of that Agreement for cooperation.
8. The activities of the United States Government under this Agreement, or any implementing contract or agreement shall be subject to the availability of United States Government funds.
9. In the event the United States Government does not have funds available for implementation of this Agreement, the Executive Agent of the Russian Federation reserves the option to obtain funding for implementation of this Agreement from any private U.S. company.
10. Prior to the conclusion of any implementing contract, the Parties shall establish transparency measures to ensure that the objectives of this Agreement are met, including provisions for nuclear material accounting and control and access, from the time that HEU is made available for conversion until it is converted into LEU. Specific transparency measures shall be established in the same time frame as the negotiation of the initial implementing contract, and shall be executed by a separate agreement.
11. Prior to the conclusion of any implementing contract, the Parties shall agree on appropriate governing provisions for entry and exit, liability, and status of personnel, exemptions for taxes and other duties, and applicable law.

12. The Executive Agent of the United States shall use the LEU converted from HEU in such a manner so as to minimize disruptions in the market and maximize the overall economic benefit for both parties. This Agreement shall have no effect on contracts between Russian enterprises and United States companies for the delivery of uranium products which are currently in force and consistent with United States and Russian law.
13. This Agreement places no limitations on the right of the Russian Federation to dispose of LEU derived from HEU extracted from nuclear weapons resulting from the reduction of nuclear weapons pursuant to arms control agreements and other commitments of the Parties beyond the specific commitments set forth herein.

Article VI:Entry into Force, Duration and Amendments

1. This Agreement shall enter into force upon signature and shall remain in force until the full amount of HEU provided for in paragraph 1 of Article 1 is converted into LEU, delivered, and supplied to commercial customers.
2. Each Party may propose amendments to this Agreement. Agreed amendments shall enter into force upon signature and shall remain in force so long as this Agreement remains in force.
3. Each Party shall have the right to terminate this Agreement upon 12 months written notification to the other Party.

Done at Washington this 18th day of February 1993, in duplicate in the English and Russian languages, both texts being equally authentic.
For the United States of America:
William Burns
For the Russian Federation:
Viktor Mikhailov

VI. Comments from Readers

Amb. Julio C. Carasales of Argentine signals an error in Issue 20, page 3, second paragraph of the **Newsbrief**, which speaks of the addition, at the August 1992 Amendment Conference of the Treaty of Tlatelolco, of a 'new clause' that would oblige all parties involved to impose the stipulations on nuclear weapons as set out in the Treaty in any territory over which they have jurisdiction, whether de facto or de jure, and which falls within the geographical limits of the Treaty. Mr. Carasales states that this matter was not touched upon during the Conference. He suggests the statement may have arisen from confusion with Additional Protocol I, which deals with this matter and which is part of the original (1967) version of the Treaty. The Editor apologizes for the error and thanks Ambassador Carasales for his helpful comment.

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.

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