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Summary:

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

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PROGRAMME FOR PROMOTING NUCLEAR NON-PROLIFERATION

Number 25 **NEWSBRIEF** **1st Quarter 1994**

Editorial Note

This issue of the **Newsbrief** reports on events relating to the non-proliferation of nuclear weapons that took place, or that came to the editor's attention, in the period 1 January–23 March 1994. The period covered is somewhat shorter than usual, so as to permit the **Newsbrief** to be printed and distributed before the Easter recess.

The **Newsbrief**, published at quarterly intervals, 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. Using publicly available material derived from reputable and generally reliable sources, the **Newsbrief** seeks to present an accurate and balanced picture of pertinent developments, including events relating to 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 used to facilitate presentation and do not necessarily imply a judgement on the nature of the events referred to, nor are they meant to be all-inclusive. For example, a new subheading **k. Environmental Issues** is used to cover subjects such as the disposal of radioactive waste at sea, hazards posed by sunken nuclear vessels, and the clean-up of weapons-fabrication facilities. However, where mention is made of environmental issues that are directly connected with the construction or operation of nuclear power plants, fuel-cycle facilities and the disposal of waste from such installations, this is done, as a rule, under heading **h. Peaceful Nuclear Developments**. Developments which, in the editor's opinion, are of particular current interest are summarised under the first subheading in Section I, **Topical Developments**: **a. Background**.

The **Newsbrief** is written by PPNN's Executive Chairman, Ben Sanders, who takes sole responsibility for its contents. The inclusion of an item does not necessarily imply the concurrence by 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.

Starting in the current issue, to save space published sources are presented without the definite article (e.g. '**Times**' rather than '**The Times**') and months are represented by numbers instead of by names, **following** the day — thus, 20/4 stands for the 20th of April and 2/6 means 2nd June. Unless otherwise stated, sources referred to and publications listed in this issue date from 1994.

I. Topical Developments

a. Background

- Events in the **Democratic People's Republic of Korea (DPRK)** are more than ever at the forefront of media attention. There still appears to be little solid information as to that country's actual progress towards the production of nuclear weapons. Some American intelligence agencies are said to believe that it has separated enough plutonium to produce one or two explosive devices; evidence that it has carried out a number of tests with high explosives, which may imply it is developing implosion devices, and reports that it has converted plutonium nitrate to metal, are taken as indications that it has already completed several nuclear weapons. Other sources, among them, reportedly, the State Department, deny there is hard information to this effect and see the intelligence estimates as 'worst-case scenarios' in which the DPRK's technical capabilities are overestimated. The latter view is also reflected in the *Bulletin of the Atomic Scientists*. Authorities in the Republic of Korea (ROK) are said to believe that the North is intent on producing nuclear weapons but has not yet done so; some sources in Seoul express the view that Pyonyang is pursuing a policy of 'bluff'. A Russian official has been quoted in Seoul as saying that the DPRK was still 'very far' from having nuclear weapons. The same source said that there was cooperation between Russia and the DPRK in peaceful uses of

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nuclear energy. On the other hand, a Russian report quoted in the Japanese press says that Russian nuclear scientists helped the DPRK develop nuclear weapons and missiles during the 1980s; there have been several reports in Japanese media of Russian sources alleging that the DPRK has at least two nuclear weapons. While, reportedly, the USSR supplied the (Purex) plutonium extraction process used at Yongbyong, recent reports reveal that the large plutonium separation facility now under construction will make use of more advanced technologies as used in the Eurochemic reprocessing plant that functioned at Mol, in Belgium, as a joint undertaking under the auspices of the Nuclear Energy Agency of the OECD. Developed at Marcoule, France, in collaboration with a German research centre, these are said to be novel processes for the decladding of irradiated fuel and binding liquid medium-level reprocessing wastes containing insoluble radionuclides to molten bitumen, for eventual storage in steel drums. Reportedly, once the new reprocessing plant is completed it would call for continuous inspection during operation. This becomes especially relevant when the large natural-uranium, graphite-moderated reactors now being built are operational.

The following is a summary of the developments of the last three months, in approximate chronological order. In early December the IAEA announced that after two months during which no safeguards inspections of declared nuclear material or facilities had taken place in the DPRK, the safeguards measures in place there could no longer be said to provide meaningful assurance of peaceful use of these installations and this material. It said it was ready to send an inspection team to perform a full range of inspection activities, which it had indicated in detail. For its part, the Ministry of Atomic Energy of the DPRK called the Agency's argument, that the continuity of safeguards had deteriorated, unreasonable: it had advised the IAEA that it was ready to receive a team for maintenance of the containment and surveillance system, but the latter had not accepted this proposal and thus bore responsibility if there was no continuity of safeguards. The DPRK indicated that in its current status of having suspended the effectuation of its withdrawal from the NPT, it was not ready to accept the full implementation of the safeguards agreement.

Against this background, American officials continued their efforts to persuade Pyongyang to accept the IAEA's safeguards and resume the dialogue with the South that should lead to the denuclearisation of the Korean Peninsula; in return, the United States would cancel the 'Team Spirit' maneuvers which it holds annually with the ROK. Reports in early January raised the hope of an early agreement, which was understood, however, to involve only a single inspection, to be followed by further talks. Comments that the US Administration seemed to have bowed to Pyongyang's intransigence by making concessions on the manner in which safeguards would be applied were denied in Washington, where officials stated that the US Administration continued to insist on inspections of sufficient thoroughness and frequency to allow the IAEA to certify that no material was diverted for the manufacture of nuclear weapons. In mid-January, the DPRK announced that it would after all accept the resumption of regular IAEA inspections of the initial seven declared sites, thus putting matters back where they had been a year before, when the IAEA had requested, and had been refused, admission to two additional facilities where it thought it might find evidence of non-declared nuclear activities. Some observers noted that the Agency's continued inability to inspect these sites would supposedly keep it from getting meaningful new information.

In subsequent consultations between the DPRK and the IAEA, new disagreements surfaced. Reportedly, Pyongyang refused to countenance a number of procedures which the IAEA had announced it would have to follow, and refused the Agency access to some of the locations it said it needed to visit; once again the DPRK argued that it had only agreed to ensure the continuity of safeguards but was not obliged to accept full IAEA inspections as it had only temporarily suspended its withdrawal from the NPT. Once again, the Agency let it be known that its inspection procedures were not a matter for negotiation and that it would not back down on any of the items on its list. The American Administration — allegedly somewhat concerned at the possibility that the IAEA's stand might move Pyongyang to adopt an even harder stance or might inspire conservatives in the US Congress to call for a halt to negotiations and a start of punitive action (several senators had already called for the deployment of nuclear weapons in the ROK) — said that it fully supported the IAEA and that if the DPRK did not reach agreement with the Agency, the bilateral high-level talks would not be resumed. Concurrently it was reported that the White House was considering a request from the senior American commander in the ROK, to be supplied with 'Patriot' antimissile batteries in case the North reacted violently if there was a decision to impose United Nations sanctions against it. This, the DPRK called an 'unpardonable grave military challenge', adding that such talk could disrupt current diplomatic negotiations. The text of its statement was sent to, among others, the IAEA, which Pyongyang accused of conspiring with the United States and of trying 'stupidly to force full-scope inspections equivalent to the DPRK's *de facto* return to the Treaty'.

These new complications took on a special dimension with the approach of the meeting of the IAEA's Board of Governors, on 21 February, at which a decision might have to be taken as to whether the inability of the Agency to apply safeguards in the DPRK should be brought to the attention of the Security Council. According to reports from Washington, the US Administration was close to abandoning its long-standing policy of patient diplomacy in favour of more direct confrontation and a possible call for sanctions. China was seen as still being opposed to Security Council action against the DPRK, however. Also, renewed efforts by the United States to persuade China to exert its influence on Pyongyang to submit to full IAEA safeguards, with support of the three other Permanent Members of the Council, were said to have failed, although Beijing had once again pronounced itself in favour of the denuclearisation of the Korean peninsula. Media reports of early February spoke of increased US military activity and noted that

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intelligence satellites had been directed to obtain more images of the northern part of the Korean Peninsula and that some American reservists had been told to be ready to take part in this year's 'Team Spirit' exercises. Meanwhile, however, ROK and Japanese officials were said to look for ways to continue the dialogue and to advocate avoiding provoking the North by, as some saw it, unnecessarily reinforcing US armed forces; the ROK's military reputedly consider American apprehensions about the North's military might exaggerated. Seoul also once again made it clear that it did not feel economic sanctions were called for at this stage.

In mid-February, news came that DPRK authorities concurred with the inspection activities which the IAEA had said it wished to carry out at the seven declared nuclear facilities. The aim of the inspection activities would be to verify that nuclear material in these facilities had not been diverted since earlier inspections. In addition, inspectors would take certain measures, such as reloading of cameras and changing of seals, to facilitate future verification. The news was welcomed in Washington, and reactions from Seoul were that this time it looked as if the North had indeed embarked on a more conciliatory policy; the ROK's decision on deploying 'Patriot' missiles was suspended until after the meeting of the IAEA's Board of Governors on 21 February. At that meeting, the Board welcomed the agreement of 15 February with the DPRK and noted, *inter alia*, that this could only constitute a first step towards resolution of all the nuclear issues, including that of the DPRK's full compliance with its obligations under the safeguards agreement.

Almost immediately, matters again hit a snag, when the DPRK linked the admission of the Agency's inspection team to the next round of high-level talks; Washington said it would not set the date for a third round of negotiations until the inspection had begun. Nonetheless, on 26 February Pyongyang issued visas to the Agency's inspectors, and the inspection duly started on 3 March. The IAEA and the DPRK had apparently agreed in advance on a specific list of inspection activities which the Agency would be permitted to carry out. Reportedly, its purpose was limited to the acquisition of sufficient data to enable the Agency to verify that there had been no diversion of nuclear material at the seven declared facilities since the earlier inspection. DPRK sources once again stressed that the agreed inspection was not to be 'a routine or an *ad hoc* inspection under the safeguards agreement but an inspection proper to the specific status of the DPRK after the temporary suspension of its declared withdrawal from the [NPT]'.

According to information from Washington and Vienna, while much of the inspection occurred as planned, IAEA inspectors were unexpectedly prevented from carrying out part of the agreed procedures. As reported, at the reprocessing facility of Yongbyon they were not allowed to map gamma radiation or take all the samples they needed to complete the previously agreed inspection process, which apparently prevented them from determining whether the DPRK had separated plutonium since February 1993, when the facility was last inspected. It also appears that at least one of the containment seals affixed to nuclear material inventories and equipment had been broken. The inspectors returned to Vienna on 15 March and the IAEA's Board of Governors was called for an urgent session on 21 March to discuss the matter and decide on further steps.

Working-level talks between officials of the two Koreas about exchanging presidential envoys also resumed on 3 March. Seoul had already said it was setting up a 'nuclear control centre' in preparation for the initiation of North-South nuclear inspections. It reportedly also promised that the 'Team Spirit' exercises would be suspended, provided Pyongyang allowed the IAEA's inspection to be completed. The first bilateral meeting ended in disagreement, after a Deputy Foreign Minister in Pyongyang denied the American contention that an exchange of envoys between North and South was part of the package of conditions for a resumption of diplomatic consultations. At the next North-South meeting, a week later, there was again no progress, allegedly because DPRK representatives demanded the cancellation of the military exercises and of deployment of Patriot missiles before the exchange of envoys could even be discussed. The next meeting, on 18 March, is said to have broken up after one hour, when the representative of the DPRK walked out, threatening war if the ROK and the United States put his country under pressure over the exchange of envoys, and specifically threatening that Seoul would become 'a sea of flames' — a threat the ROK promptly dismissed as a bluff. It is reportedly the last incident which finally prompted Washington to consider more forceful measures against Pyongyang.

In early March, the US government said that it would suspend this year's 'Team Spirit' exercises and participate in a third round of high-level talks in Geneva, starting on 21 March, if the IAEA was duly permitted to carry out its inspection, and the DPRK fulfilled its promise to exchange envoys with the ROK. The latter protested that the exchange had not been understood to be part of the package of mutual compromises, but it did not appear to let this interfere with the inspection. As soon as it became known in Washington, however, that IAEA inspectors were not allowed to do their work as planned, and its prompt demand that the inspection should be allowed to proceed as agreed was disregarded, the US government announced that the high-level meeting of 21 March was cancelled and that it would reconsider the suspension of the 'Team Spirit' exercises with the ROK and resume planning for that event. On 21 March the Agency's Board of Governors met in a special session, at which it expressed grave concern that the DPRK had failed to implement essential elements of the agreement it had concluded with the Agency on 15 February and concluded in terms of the safeguards agreement that the IAEA was unable to verify that the DPRK had not diverted nuclear material required to be safeguarded under that agreement. The Board called once again upon the DPRK to allow the Agency to carry out the necessary inspections and, in accordance with its Statute, reported the DPRK's non-compliance to the Security Council, without, however, making specific recommendations as to actions the Council might take.

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Before the Board meeting, Washington had already announced that this time it had no choice but to seek United Nations action. The Administration was clearly aware of the reluctance of many Asian countries to support sanctions against the DPRK, rather than trying to continue some sort of dialogue. It was said to recognise in particular that Chinese support for a call for Security Council sanctions would be very unlikely. China had previously expressed its opposition to such measures; it did so again on 19 March, when its Ambassador in Seoul in an interview granted to an ROK newspaper stated that in China's view, all issues should be solved by dialogue and the North Korean nuclear problem was no exception. Moreover, relations between Beijing and Washington were at a low point following a visit to Beijing, shortly before, during which US Secretary of State Christopher had declared that China's most-favoured-nation status was jeopardised by its activities in the area of human rights. During a visit on 20 March to Beijing, Japan's Prime Minister Hosokawa reportedly urged the Chinese government to persuade the DPRK to accept full safeguards inspections, but he, too, was told that there was little China could do in this regard, and the matter should be settled between the two Koreas, the IAEA and the United States. In this exchange, too, Beijing was said to have called for patience and continued dialogue.

Although the US Secretary of State, Christopher, has repeatedly expressed the view that China would not object to Security Council action, its likely objections are thought to have played an important part in the Administration's decision, rather than trying to venture a potentially unsuccessful request to the Security Council for immediate sanctions against the DPRK, to consider a carefully graduated approach under which it would 'prepare' for sanctions, and the Security Council would first warn the DPRK that measures would have to be taken against it, if it did not allow the IAEA's inspectors to carry out its inspections as planned. Among measures considered for later implementation, it was reported, was a cut-off of financial transfers from Japan (see below), to be followed, possibly, by an oil embargo.

As one of the first steps, the US said it would ask the ROK to agree to a resumption of the plans to hold the 'Team Spirit' exercise, and there were reports that the ROK would go along. However, while normally the exercise would be held in the Spring, to avoid damage to crops, it was reported that this time the event would not be held until the Autumn, which some commentators saw as allowing the ROK to consider the matter at leisure. It is also reported that Seoul now actively seeks the early deployment of 'Patriot' missiles.

The future of IAEA safeguards in the DPRK is thus once again in doubt. It had been expected that the matter of the Agency's access to the two installations so far barred to inspectors would be raised at the high-level DPRK–US meetings. Currently, it is not clear whether and when those meetings will resume, nor whether the DPRK will permit any further safeguards inspections. If the March inspection had been allowed to proceed as agreed, another inspection would reportedly have been due about May. Pyonyang was understood to have agreed to the application of containment and surveillance measures at the 30-MW reactor until its impending refuelling. The IAEA had planned, when the core was changed, to make non-destructive assays of the material in the old core, to verify its fissile material content, in the apparent hope that in doing so it would be able to conclude whether the core had been in the reactor from start-up. Even if this had been possible, experts had expected that there would be uncertainties especially about the early operating period.

Pyongyang has denied, as unfounded fabrications, reports that North Koreans residing in Japan were in the habit of remitting large sums of money from Japan to the DPRK, allegedly amounting to about ¥200 billion (other reports speak of $600 million to $1 billion) annually, for use in the North's nuclear programme. Japanese authorities have said that they would only be able to stop this flow of cash to Pyongyang if there was a formal embargo on transactions with the DPRK. Japan's foreign minister has promised to check into reports that the same Korean residents are involved in exporting to the DPRK high-tech components and equipment with potential military use. In January, Japanese police raided an electronics factory in Tokyo and a trading company in Yokohama, which were accused of clandestinely exporting to the DPRK, by way of China, high-technology devices for use in guiding ballistic missiles.

The DPRK has also formally denied that it had bought the missile guidance devices. The Director of the American Central Intelligence Agency said on 18 March that the DPRK was developing two new types of ballistic missiles, with a range exceeding the distance covered by a missile it tested last year, i.e., 620 miles (1,000 km). *Jane's Defence Weekly* has mentioned two ballistic missiles being developed: one with a range of 1,240 miles (2,000 km) and another perhaps capable of 2,180 miles (3,500 km).

(David Albright, in **Bulletin of the Atomic Scientists**, Jan/Feb; **KCNA** [Pyongyang], 12/11/93, in **JPRS-TND-93-037**, 8/13/93; **Yonhap** [Seoul], 1/12/93, in **JPRS-TND-94-001**, 6/1, 9/1, in **JPRS-TND-94-003**, 31/1; **Kyodo** [Tokyo], 15/12/93, in **JPRS-TND-94-002**, 18/12; **Guardian**, 27/12/93; **Times** [London], 27/12/93, 20/3; **International Herald Tribune**, 27 and 29/12/93, 15/1, 20/1, 22/1, 11/2, 21/3; **Frankfurter Allgemeine Zeitung**, 29/12/93; **Korea Times** [Seoul], 12/1, in **JPRS-TND-94-003**, 31/1; **New York Times**, 4/1, 5/1, 6/1, 9/1, 16/1, 21/1, 23/1 27/1, 30/1, 3/2, 5/2, 6/2, 9/2, 11/2, 12/2, 15/2, 16/2, 18/2, 22/2, 24/2, 27/2, 2/3, 3/3, 5/3, 16/3, 17/3, 18/3, 20/3; **Washington Post**, 2/2, 6/2, 7/2, 16/2, 4/3, 10/3, 21/3; **Washington Post National Weekly Edition**, 14-20/2; **US Information Service**, 6/1; **Austrian Press Agency**, 7/12; **Daily Telegraph**, 8/12, 22/3; **Financial Times**, 24/1, 28/2, 15/3, 18/3; **Associated Press** [Canberra], 19/1, [Tokyo], 26/1; **Economist**, 8/1, 12/2, 19/3; **Nucleonics Week**, 6/1, 20/1, 17/2, 24/2, 17/3; **NuclearFuel**, 17/1, 28/2; **BBC Summary of World Broadcasts**, in **Uranium Institute News Briefing** 26/1-1/2; **US News & World Report**, 7/2; **Christian Science Monitor**, 14/2; **Newsweek**, 14/2; **IAEA Press Releases**, PR 94/4, 15/2, PR 94/5, 23/2, PR 94/6, 26/2; **Süddeutsche Zeitung**, 16/2, 18/2, 25/2; **The People's Korea** [Tokyo], 26/2; **Die Presse**, 28/2; **Jane's Defence Weekly**, 12/3)

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- **India** is reported to have sent **Pakistan** a set of proposals to ease border tensions. One of these is said to be the assurance that in the event of war, India would not use nuclear weapons first. Further, India has reportedly proposed that both countries would use nuclear weapons only against strategic targets. (**Independent**, 26/1; **Daily Telegraph**, 26/1; **Times** [London], 26/1)

- **Ukraine** has not yet met the commitment it made in the Lisbon Protocol of May 1992, to accede to the Non-Proliferation Treaty as a non-nuclear-weapon state. On 18 November 1993, its parliament ('Verkhovna Rada') adopted a resolution ratifying the Treaty on the Reduction and Limitation of Strategic Offensive Arms (START I) and the Protocol, with 13 reservations, claiming ownership of the nuclear weapons on its territory, rejecting for now its commitment to accede to the NPT as a non-nuclear-weapon state and making the surrender of the weapons dependent, among other conditions, upon the fulfilment of demands for security guarantees, aid in the dismantling of nuclear weapons, compensation for the material in the warheads of the weapons and general economic assistance. In early January, Ukraine agreed with Russia and the United States on the removal of all nuclear weapons from its territory to Russia for dismantling within three years. The estimated 50 metric tons of highly enriched uranium that will be extracted from the approximately 1,800 warheads — 1,240 on SS-19 and SS-24 missiles, and 560 on bomber-launched cruise missiles — that are to be shipped to Russia and there taken apart, will be blended down and eventually returned to Ukraine in the form of reactor fuel elements. The value of the material is set at approximately $1 billion. In compensation for the highly enriched uranium in the tactical nuclear weapons previously removed from Ukraine, Russia reportedly will cancel a large part of Ukraine's long-term debt. The United States has promised Ukraine financial assistance, and help in weapon-dismantling, amounting to $700 million. This is twice the sum initially mentioned; it was reportedly decided upon by Washington after Kiev ratified START I. Russia and the United States also guaranteed the integrity of Ukraine's territory, ensuring that its borders cannot be changed without its approval. Confirming the agreement, Presidents Clinton and Kravchuk met briefly in Kiev on 12 January and then went to Moscow where a trilateral agreement was concluded on procedures to transfer the nuclear warheads to Russia, on the associated compensation and on security guarantees. The text of the agreement, which is in the form of a trilateral statement, with an annex, is reproduced below in **Section IV. Documentation**.

  Although there had been suggestions that Ukraine's President would be able to put the agreement into effect without further parliamentary involvement, because it was seen as meeting the conditions laid down by the parliament in its earlier decision, it is now thought to need ratification. Initial strongly negative reactions in the parliament raised doubt that it would be prepared to concur in an unconditional removal of all 176 strategic weapons, given the reservations it made before, and its growing suspicion of Russia following the electoral success of the nationalist Vladimir Zhirinovsky there and of moves in the Crimea towards secession to that country. There are some indications that actually events in the Crimea may have made ratification easier, since the security assurances provided for in the agreement include a guarantee of Russia's recognition of Ukraine's territorial integrity. On 3 February, the parliament adopted a resolution renouncing the 13 conditions it had placed on ratification of START I, thus opening the way to the full implementation of that treaty, but it held up its approval of Ukraine's accession to the NPT as a non-nuclear-weapon state, as well as a decision on the removal of the nuclear weapons. The text of the resolution is reproduced in **Section IV. Documentation**.

  During his visit to Washington in early March, President Kravchuk is said to have assured President Clinton once again that Ukraine would abide by its commitments to remove all nuclear weapons from its territory as soon as possible, and join the NPT as a non-nuclear-weapon state. He announced that the first trainload of 60 nuclear warheads was on its way to Russia. Since then, it was announced in Kiev that further shipments are suspended, allegedly because by revealing the route to be taken the Russian press put the operation at risk.

  While still in Washington, and shortly after he had assured the US Administration of his determination to fulfil his obligations, President Kravchuk was quoted as saying that the drastic cuts by Russia in its natural-gas supplies to Ukraine, reportedly because it owes the Russian company Gazprom $586 million for previous deliveries, meant that Moscow was not living up to its commitments and that the fulfilment of agreements, 'including nuclear agreements', was possible only if the economy worked. Also, he was understood to have said that besides having a negative effect on the implementation of the arms deal, the situation might prompt him to cancel the parliamentary election due on 27 March. Meanwhile, however, Russia has promised to resume its gas supplies if Ukraine pays for the deliveries it received last year, one-half in cash and one-half in equipment. This deal is said to be valid until 10 April, and will be called off again if Ukraine delays any further payments. While, as some observers note, a clause in the tripartite agreement of January protects Ukraine against economic coercion, others point out that this does not take effect until it ratifies the NPT. Kiev is also said to have resented the earlier refusal by Russia to allow the export to Ukraine of nuclear fuel as long as it did not accede to the NPT or did not otherwise accept full-scope safeguards. Apparently, this was already causing problems for Ukraine's nuclear power stations, some of which were operating at reduced power to save fuel, notably the on-line refuelling Chernobyl reactors, which were said to be about to run out of fresh fuel; there was also talk about plans to keep several VVER-type reactors with fuel reserves for three-to-six months, off-line after their planned maintenance shut-downs later this year. It has now been announced that the Russian authorities have pronounced themselves satisfied by Ukraine's assurances that a safeguards agreement with the IAEA will be concluded in the near future.

  President Kravchuk's announcement that he would not seek re-election when his term expires in June is causing concern abroad, since he is generally seen as indispensable in ensuring Ukraine's denuclearisation.

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Given the country's worsening economic situation and the growing ethnic tensions which, according to American intelligence sources quoted in the media, might lead to violence and military involvement by Russia, Ukraine's denuclearisation is seen both as urgently needed and increasingly hard to bring about.

Reports of problems with the maintenance of the strategic nuclear missiles in Ukraine continue to surface. In particular, the liquid propellant of the older SS-19 missiles is said to grow unstable and to cause corrosion and leaks. The severity of the situation is denied in Kiev, where there is speculation that Russia might be exaggerating the problems to give it a ground for offering to take back the defective SS-19s right away, on condition that the SS-24s are also promptly shipped back. Ukrainian authorities have once again denied that they were trying to decipher the operations codes of the missiles. They also disavow reports that the missile silos and warhead storage areas are not securely guarded.

Japan has agreed to give Ukraine technological assistance in dismantling nuclear weapons. It has set aside $100 million for assistance to Belarus, Kazakhstan and Ukraine, but has apparently not yet decided how to distribute this fund nor in what form it will dispense its assistance.

(**Radio Ukraine World Service**, 14/12/93, **Demokratychna Ukrayina**, 15/12/93, **Ukrayinske Radio**, 17/12/93, all in **JPRS-TND-94-002**, 18/1; **Uryadovy Kuryer**, 21/12/93 and **Radio Ukraine World Service**, 18/1, both in **JPRS-TND-94-003**, 31/1; **US Information Service**, 18/1; **Independent**, 11/1, 12/1, 18/1, 19/1; **Financial Times**, 11/1, 16/1, 4/2, 23/2; **Guardian**, 10/1; **International Herald Tribune**, 10/1, 12/3; **New York Times**, 11/1, 12/1, 13/1, 15/1, 16/1, 2/2, 4/2, 23/2, 4/3, 5/3, 7/3, 17/3, 18/3; **Washington Post**, 13/1, 14/1; **Nucleonics Week**, 3/2, 10/3; **NuclearFuel**, 14/2; **The Economist** 22/1, 12/3; **Washington Post National Weekly Edition**, 31/1-6/2; **Washington Post**, 7/3; **Wall Street Journal**, 11/3; **Süddeutsche Zeitung**, 12/3)

- At their meeting in Moscow on 14 January, Presidents Clinton and Yeltsin made a joint statement in which, among other things, they called for the indefinite and unconditional extension of the NPT, agreed to review jointly appropriate ways to strengthen security assurances for states that have renounced the possession of nuclear weapons, reaffirmed their countries' commitment to the early conclusion of a comprehensive nuclear test ban, and called for a ban on the production of fissile materials for nuclear weapons. The text of the joint statement is reproduced in **Section IV. Documentation.**

- On 25 January, the Conference on Disarmament in Geneva set up an *ad hoc* committee to negotiate a comprehensive nuclear test ban (CTBT). President Clinton has called for the negotiation 'at the earliest time' of a CTBT, which is reportedly considered 'an immediate priority' for the US Administration. The permanent representative of **Mexico**, Ambassador Miguel Marin Bosch, will chair the *ad hoc* committee.

(**Financial Times**, 26/1; **International Herald Tribune**, 26/1; **Neue Zürcher Zeitung**, 27/1)

b. NPT Events

- The **Preparatory Committee for the 1995 Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons** (NPT) had its second session at United Nations Headquarters in New York, on 17–22 January. The session was opened by the Chairman of the first session, Jan Hoekema of the Netherlands and chaired by André Erdos of Hungary; Hannelore Hoppe of the UN Office for Disarmament Affairs was the Secretary. Representatives of 114 states parties to the NPT attended. The Committee decided that its third session, which will be held in Geneva on 12–16 September, would be chaired by Isaac Ayewa, Ambassador of Nigeria to the United Nations in New York.

  At its first session, the Preparatory Committee had been advised of the candidatures for the post of President of the 1995 Conference of Poland, which had not nominated a candidate by name, and of Jayantha Dhanapala of Sri Lanka. At the second session, Poland withdrew its candidature and the Committee thereupon unanimously endorsed the candidacy of Ambassador Dhanapala for the presidency of the 1995 Conference. The Committee noted that the Secretary-General of the United Nations had nominated Prvoslav Davinic as provisional Secretary-General of the Conference.

  The Committee's second session was again largely devoted to procedural matters, both pertaining to its own work and that of the Conference. On the matter of decision-taking, which had been the subject of extensive discussion in the first session, in the words of its Progress Report, it '... decided to make every effort to adopt decisions by consensus. In the event that consensus cannot be reached, the Committee will then take decisions in accordance with the rules of procedure of the Fourth Review Conference'.

  Another subject of debate had been the representation of states non-parties and of non-governmental organisations (NGOs) at sessions of the Preparatory Committee and in that context the Committee agreed to allow representatives of non-party states to attend as observers at Committee meetings that are not designated as closed, and to receive and submit documents. It further agreed to permit representatives of NGOs to observe open meetings of the Committee from the public gallery and during the third session to hold a briefing 'on the margins of the Committee's deliberations', i.e., in the UN building in Geneva but not to the Committee as such.

  No agreement was reached at this session about the rules of procedure. The Committee set up an informal working group, which considered a number of suggestions from Committee members. Its work will continue at the next session. Regarding background documentation, the Committee identified a number of subjects on which it invited the Secretariat of the United Nations, the International Atomic Energy Agency, the Agency for the Prohibition of Nuclear Weapons in Latin America and the Caribbean and the Secretariat of the

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South Pacific Forum to prepare background documents for the Committee's consideration at its third session. It also outlined the way it wishes those papers to be prepared.

Decisions on the agenda and the final document(s) of the Conference were deferred. The principal decisions of the Committee are reproduced in **Section IV. Documentation**

Representatives of the IAEA made presentations to the Committee, on the subjects of safeguards and technical cooperation, which were much appreciated. At the end of its session there was occasion for delegates to make brief statements on a range of substantive issues relating to the NPT. The Committee is expected also to devote the major part of its third session to a substantive debate. (**NPT/CONF.1995/PC.II/3**, 21/1, Progress Report of the Preparatory Committee for the 1995 Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons; **Direct Information**)

- Algeria announced on 21 December 1993 that it planned to accede to the NPT. The announcement was made by Algeria's Minister for Foreign Affairs on the occasion of the inauguration of the As-Salam nuclear research reactor at Ain Oussera. The heavy-water cooled and moderated 15-MW reactor was constructed with the help of **China**. (**UN General Assembly**, A/48/831, 23/12/93; **Algiers Radio** 21/12/93, in **JPRS-TND-94-002**, 24/12/93, in **JPRS-TND-94-003**, 31/1)

- **Kazakhstan** deposited its instrument of accession to the NPT with the **United States** on 14 February and with the **United Kingdom** on 21 March (**Washington Post**, 15/2; **Times** [London], 23/3)

c. Other Non-Proliferation Developments

- On 18 January **Argentina** and **Chile** became full parties to the Treaty of Tlatelolco, with the treaty entering into force for both states on that date. (**Radio Santiago**, 18/1, in **JPRS-TND-94-003**, 31/1; **New York Times**, 18/1; **Arms Control Today**, Jan/Feb)

- In **Brazil**, the Senate on 6 February ratified the quadripartite agreement between Argentina, Brazil, the IAEA and ABACC: the Argentine-Brazilian Agency for Accountancy and Control of Nuclear Materials. It did not find the time to decide on proposed amendments to the Treaty of Tlatelolco, but was expected to deal with this item shortly. On 22 September 1993, the Brazilian House of Representatives had approved both measures; **Argentina** has also ratified them, as has **Chile**. Brazilian adoption of the quadripartite agreement had been held up by doubts about a clause recently added allowing the agreement to be amended by exchange of notes. Reportedly concerned about industrial espionage and fearing that this procedure might be used to add to the IAEA's inspection rights, the Senate in its vote stipulated that modifications require legislative approval. (**El Mercurio** [Santiago], 26/11/93, and **O Estado de Sao Paolo**, 8/12/93, in **JPRS-TND-94-001**, 6/1; **Nucleonics Week**, 20/1, 17/2)

d. Nuclear Disarmament and Arms Limitation

- During the presidential meeting in January, the **Russian Federation** and the **United States** have agreed that as of 30 May, their strategic missiles will not be targeted at each other's territories. The agreement is seen as a largely symbolic gesture, both because its implementation is hard to verify and it would be easy to reinstate the original target within a matter of minutes. On 15 February, Russia made a similar agreement with the **United Kingdom.** (**Washington Post**, 13/1; **Salzburger Nachrichten**, **Daily Telegraph** and **Independent**, 15/1; **Guardian**, **Times** and **Financial Times**, 16/2)

- It is reported that the Minister for Atomic Affairs, Viktor Mikailov, of the **Russian Federation** and the Secretary of Energy, Hazel O'Leary, of the **United States of America**, have agreed to permit each other's inspectors to visit sites where nuclear warheads are dismantled. The US Department of Defense has devised a procedure under which each side would dismantle its warheads in private, in order to keep the design secret, while the other side would be allowed to measure the amount of plutonium removed, and so determine the number of warheads taken apart. The plutonium would be taken from the dismantling site to a storage area, in special containers. Once there, it would be measured by what is referred to as 'special radiological instruments', capable of determining the amount of plutonium in the containers without opening them. The proposal is said not to have been approved by the White House yet, or presented to Moscow. Within the framework of the Clinton cut-off plan, IAEA inspectors will for the first time inspect an American military nuclear installation. In September 1994, Agency inspectors will inspect a highly enriched uranium stockpile at Oak Ridge, Tennessee. They may later verify plutonium stores at Rocky Flats, Colorado, and Hanford, Washington. (**Enerpresse**, 7/3; **New York Times**, 10/3, 16/3, 17/3).

- There is scepticism in the **United States** about the Clinton Administration's defence policy. Republicans and conservative Democrats accuse the government of cutting defence spending too deeply. Others, however, are reported to feel that the Pentagon inflates potential threats to American security and ignores the military strength of America's allies. The latter are reportedly concerned by the President's refusal to let the military budget drop below that requested by the Department of Defense, whose assumption that the United States should be able to fight and win two regional wars at a time, they consider unrealistic. While conservatives fault the government for being weak on military matters, many Democrats criticise it for maintaining weapon systems developed for Cold War purposes and now neither needed nor appropriate. Those critics take as examples proposals to maintain twelve carrier battle groups, to continue the improvement of missiles for Trident submarines, to carry on with the construction of B-2 bombers and F-22 fighters and generally to spend more on defence in inflation-adjusted dollars than did President Nixon at the height of the Cold War. One of their objections, against the continuation of the Milstar satellite system, may have been boosted by a recent power failure in the first of these $1.3-billion devices, which are said to have been developed in the 1980s to

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provide world-wide communications after a six-month nuclear war. A second Milstar satellite is now supposedly being prepared for launching; a further four are said to be redesigned to reflect the diminished likelihood of as global nuclear war. The Milstar programme reportedly costs at least $27 billion to develop, construct, launch and operate. (**New York Times**, 15/2, 5/3, 10/3; **Committee for National Security**, The Bottom Up Review: Exaggerated Threats and Undervalued Allies?, Washington, D.C., Feb.)

e. Nuclear Testing

- **China**'s Prime Minister has been quoted as saying that his country would endorse a comprehensive nuclear test ban on condition that the nuclear-weapon states conclude a non-first-use agreement. (**Mainichi Shimbun**, 1/3)

- The Minister of Defence of **France** has said that there is no question 'whether' his country should resume testing, but 'when'. He is further quoted as saying that the 'indefinite' extension of the moratorium decreed by the President in April 1992 was 'semantically contradictory and politically dangerous'. (**Enerpresse**, 25/2)

- **Kazakhstan** and **Russia** have reportedly agreed to try to remove the nuclear device that has been stuck since 1989 in a shaft at the Semipalatinsk test site through a bypass shaft, which will be drilled by hand. In November 1993, it was reported from Moscow that the Russian test site at Novaya Zemlya could be made ready for use within a very short period. Earlier, there had been a report that the Russian military were not inclined to resume testing and that there were problems with the testing range at Novaya Zemlya. (**Novoye Vremya**, October 1993; **Komsomolskaya Pravda**, 9 and 11/11/93, all in **JPRS-TND-93-037**, 8/12/93)

- It was announced in Washington on 15 March that the President of the **United States** had decided to extend the moratorium on nuclear testing for another year, through September 1995. (**New York Times**, 16/3)

f. Nuclear Trade and International Cooperation

- The **United States** Administration is engaged in a review of its export control policy. In general, the Administration is said to aim at striking a balance between the need to restrict potentially dangerous dual-use exports and to promote trade by easing sales abroad of machine tools, telecommunication equipment, powerful computers and missile components. The Administration is trying to do so by emphasising multilateral export controls, under which American exporters would not be disadvantaged in comparison with those in other countries. The respective government agencies involved are said to take different positions as to what items should be restricted and where controls might be relaxed. Reportedly, the Commerce Department is most inclined to relax restrictions while the Departments of State and of Defense are said to be somewhat less liberal in their approach. Press reports from Washington claim, however, that the new Secretary of Defense, William Perry, considers the control of dual-use technology a 'hopeless task' and has said publicly that, 'it only interferes with a company's ability to succeed internationally'. Observers consider the present Pentagon approach even weaker on proliferation control than it was during the previous two Administrations. Attempts are being made to simplify the application procedures and speed up the review of licensing requests. Business sources, however, still consider the new policies to be unnecessarily restrictive and are making an effort to achieve further relaxations, while the arms control community is dissatisfied with the new proposals because they see them as weakening the country's credibility in the area of non-proliferation. The Administration is said to want Congress to repeal legislation under which the United States bans military aid to **Pakistan**, in exchange for an undertaking by the latter that it will stop producing material for nuclear weapons. The new approach has prompted reactions in the Senate, where many members fear that it will set a negative precedent. It is widely expected to be adopted, however. (**Washington Post**, 6/2; **Wall Street Journal**, 25/2; **New York Times**, 25/2, 3/3; **Arms Sales Monitor**, No. 24, 15/3)

g. IAEA Developments

- Mr. Richard Hooper, **United States of America**, has been appointed Director of the Division of Concepts and Planning in the Department of Safeguards. Mr. Hooper previously was a section chief in the department, as well as a safeguards inspector. He headed several inspection teams in **Iraq** and played a major role in the evaluation of inspection data collected there. (**IAEA Press Release**, PR 94/2, 18/1)

- As of 31 January 1994, the IAEA had 120 members. They are listed in **Section IV. Documentation**.

h. Peaceful Nuclear Developments

- The cooperation between *Electricité de France* (EDF) and the National Electricity Company (NEK) of **Bulgaria**, to complete and upgrade the Kozloduy nuclear station, has been extended. Reportedly, EDF, using funds from the European Union and the European Bank for Reconstruction and Development, as well as its own resources, will give limited support for the operation of units 1 and 2, the two oldest VVER-440 model 230 reactor units, which it wants to see shut down as soon as possible, (along with all other eight VVER-440/230 reactors now operating: the two other ones at Kozloduy, two at Bohunice, in the **Slovak Republic**, and four in **Russia** — two at Kola and two at Novovoronezh) and short-term assistance for the operation of units 3 and 4, which, although of the same type as the former, have not been operated as long and are said to have some additional safety features. The bulk of the support is said to be earmarked for the upgrading of the VVER-1000 units 5 and 6 so they can operate safely for the duration of their design life. At the end of 1993, during which the station had generated 36.7 per cent of Bulgaria's electricity, unit 1 had resumed operation and was running at 50 per cent power; units 2, 3 and 4 were in full operation; unit 5 was down for refuelling and unit 6 was back on line after refuelling. (**Ens NucNet**, 29/12/93, 3/1, 9/2; **Le Monde**, 5/1; **Nucleonics Week**, 6/1, 27/1)

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- In **Canada**, where some utilities are said to have excess generating capacity, the 904 MW Bruce-2 unit will be closed in 1995, after only 18 years service. A maintenance error in 1986, which led to an intrusion of lead into the plant's system that would be expensive to remedy, has reportedly made it a logical candidate for closure. Atomic Energy of Canada Ltd. which had hoped to be able to develop a 450-MW Candu-type reactor for smaller utilities are now reportedly no longer sure that such a plant would be economically viable. The work is going on, however, and **Argentina** is said to be interested in a study of the feasibility of the use of this reactor in its system. Argentina already has a 700-MW Candu reactor. (**Nucleonics Week**, 17/2, 17/3)

- In **China**, the Daya Bay nuclear power plant was officially inaugurated on 6 February. The station, which contains two 984-MW PWRs, was built with assistance mainly from **France**. The presence of this nuclear power station, 20 miles from Hong Kong, is said to cause apprehension among the people of that city. (**International Herald Tribune**, 7/2; **Nucleonics Week**, 17/2)

- The US Export-Import Bank has decided to approve a credit of $317 million to enable Westinghouse to upgrade and complete two VVER-1000 reactor units at the Temelin power station in the **Czech Republic**, near the Austrian border. Funding guarantees for the project are said to have been endorsed by the Nuclear Regulatory Commission and the National Security Council on the basis that supposedly the IAEA and the Department of Energy (DOE) had concluded that the reactors could be upgraded to the point where they would meet western safety standards. While IAEA and DOE officials are quoted as saying that it is still too early to draw a general conclusion regarding the possibility of upgrading all VVER-1000s to the point where they meet an acceptable level of safety, an IAEA spokesman has said that if all the measures which the Agency has recommended are applied, it should be possible to achieve a high level of safety at Temelin. The project to upgrade Temelin is said to be supported by the White House but has met with criticism from Congress and the World Bank, which seems to feel that Temelin is not now needed. There is also opposition within the Czech Republic and especially in **Austria**, where a suggestion has been made to petition the International Court of Justice for a ruling on liability in case of an accident; the Czech Republic is not a party to either of the international nuclear liability conventions, but has said it will soon take steps in that direction. The matter has disturbed relations between Vienna and Prague. These worsened further in February, when a fire at a transformer building of another Czech nuclear power station, at Dukovany, provided the Austrian media with additional arguments against the use of nuclear power in the Czech Republic. Austria has been lobbying in Washington to get the banking subcommittee of the US Congress to overturn the decision of the Eximbank. A high-level delegation that visited Washington in February has reportedly used the argument that the design of the reactor is inherently unsafe, the modifications are unproven and there has not been a public examination of the risks which, it is claimed, involve 'devastating health, environmental, economic and social consequences for all of Austria's ...citizens'. Initially it looked as if the Austrian effort might pay off at least to the extent that the Eximbank would put off its definitive decision, but on 18 March it was announced that it had decided to grant the guarantee. According to Austrian press reports this news has led to anger and disappointment among Austrian environmentalists, who are blaming the government for the failure and are making a range of suggestions for possible further steps to stop the completion of the Temelin power plant and are promising not to give up their effort. Following allegations that Austrian financial institutions, including its central bank, have directly or indirectly participated in financing the Temelin power station, questions have been raised in the national and international press about the propriety of the Austrian government's attitude in this matter. It is also reported that the central bank owns one third of the local branch of Westinghouse. (**Nucleonics Week**, 27/1, 3/2, 3/3, 10/3; **Ens NucNet**, 3/2; **Wirtschaftswoche**, 3/2, 5/2; **Die Presse**, 3/2, 4/2, 5/2, 7/2, 12/2, 14/2, 15/2, 24/2, 12/3; **Standard**, 26/1 3/2, 4/2, 5/2, 8/2, 14/2, 24/2, 26/2, 12/3, 14/3; **Kurier**, 4/2, 5/2, 7/2, 13/2, 14/2, 15/2, 24/2, 26/2; **Salzburger Nachrichten**, 4/2, 5/2, 14/2, 15/2, 12/3; **Financial Times**, 4/2; **Enerpresse**, 11/2; **New York Times**, 23/2; **International Herald Tribune**, 24/2; **Spiegel**, 28/2)

- In **France**, the *Direction de la sûreté des centrales nucléaires* (DSIN), the nuclear safety authority, has recommended the re-start of the Superphénix fast reactor, once ongoing work on measures to reduce the risk of fire has been completed, probably in April. In its report to the government, DSIN says that initially the reactor should operate at 50 per cent of rated power, to permit checking of new safety devices. Plans are to use the reactor for research and demonstration and to burn excess plutonium; in June the government is expected to take a final decision about its future. Immediately after publication of DSIN's recommendation, opponents from France and abroad started calling for protest marches, which are expected soon. (**Liberation**, 18/1; **Süddeutsche Zeitung**, 19/1; **Ens NucNet**, 19/1; **Le Monde**, 19/1, 20/1; **Neue Zürcher Zeitung**, 20/1; **Nucleonics Week**, 20/1)

- A fire at the 1,204-MW Biblis-A reactor in Germany, in early March, appears to have drawn new attention to safety problems that had been said to exist there. The plant had been off-line since late 1993 for refuelling and maintenance. The fire, in a pump motor inside the containment, is supposed to have been caused by a short circuit resulting from a small metal tool being dropped on it. Comment is caused by the decision of the Federal Minister for Environment and Nuclear Safety, to allow the reactor to restart although apparently the state authorities of Hesse, where the plant is situated, were not yet ready to do so. (**Nucleonics Week**, 10/3, 17/3)

- **Indonesia**'s Environment Minister has said that his country has no plans to build a nuclear power plant for at least another decade. Earlier reports of plans to construct a 1,200-MW power station in central Java had prompted environmentalists in **Australia** to raise alarms about earthquake risks in the area. (**Sydney Morning Herald**, 9/2)

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- In early January it was reported that in **Russia** the RBMK power stations at Kursk, Leningrad and Smolensk might soon have to be shut down for lack of fuel. Apparently the utilities lack funds to pay fuel-fabricators for fresh fuel assemblies, mainly because they themselves suffer from a cash shortage caused by delays in payment by the grid organisations. The problem is particularly acute at RBMK-type reactors which are refuelled continuously and tend to have relatively small stocks of fuel. International investigations are said to have led to the conclusion that the safety of Soviet-designed RBMK reactors seems to have improved since the Chernobyl event. However, because of variations between individual plants as a result of different approaches to upgrade work, a great deal of further plant-specific study is required before experts will be able fully to judge the situation. From **Lithuania,** it is reported that there will be a decision in 1995 whether Ignalina-1 can continue to operate after 1998. It now appears likely that both RMBKs at Ignalina — which are said to produce between 70 and 90 per cent of the country's electricity — will be shut by 2010 if international financial and technical help can be found to provide alternative power sources. (**Nucleonics Week**, 17/2, 3/3)

- A decision is still pending on the establishment of a joint venture between *Electricité de France* (EDF) and the Slovak power company to complete the two VVER-440/213 power reactors at Mochovce, in the **Slovak Republic**. Reportedly, this will depend on funding by the European Bank for Reconstruction and Development, which has ordered a nuclear safety review and an environmental assessment and audit of the project before it takes a decision. The question whether and when the two old VVER-440/230 units at the Bohunice power station will be closed is also expected to play a part in the Bank's decision. The issue appears to be another source of agitation in Austria. (**Ens NucNet**, 8/2; **Nucleonics Week**, 3/3)

- The 632-MW Krsko nuclear power station in **Slovenia**, which that country owns jointly with **Croatia**, is expected to be operated beyond 1995, when it was originally supposed to be shut down. The IAEA has made a number of recommendations for upgrading the plant; international experts who have assessed its safety agree that in general it meets accepted safety standards and there is no urgent need to shut it down. Following alarming reports in the Austrian press about deficiencies in the safety features of the installation, notably its susceptibility to seismic disturbance, the neighbouring province of Carinthia has demanded an immediate end to its operation. The Slovenian authorities are said to be prepared to consider closing the plant in about ten years, if the Austrian Federal government and Carinthia can help it find alternative power sources. This is not expected to be easy, since Krsko produces as much power as all of Carinthia's utilities together. Croatia's wishes in the matter will also have to be taken into account. A dispute between Croatia and Slovenia about outstanding payment by the former has been settled for the moment, but problems are expected to persist until a clearer settlement of the ownership of the plant can be reached. (**Kurier**, 6/1, 23/2; **Salzburger Nachrichten**, 7/1; **Enerpresse**, 7/1; **Ens NucNet**, 11/1, 27/1; **Die Presse**, 12/1; **Standard**, 23/2; **Nucleonics Week**, 27/1)

- In **Spain**, extensive and in places deep cracking of the reactor vessel has been found at the 25-year old 160-MW Zorita power station built by Westinghouse. The plant underwent considerable backfitting in the 1980s and although it would reportedly be possible to repair it by replacing the vessel head, there is also talk of closing the plant altogether. Spain has a moratorium on new nuclear capacity. (**Nucleonics Week**, 27/1, 3/3, 10/3)

- In **Ukraine**, which is faced with the problem where to store its spent reactor fuel, plans are afoot for the construction of on-site dry-storage containers. This method has reportedly been chosen because it allows the maximum use of local resources and takes least time. Observers question where the funds for these plans are to come from. Apparently, utilities in Ukraine and Russia suffer serious cash shortages because of unpaid electricity bills and the problem of collecting from grid organisations. Also, utility rates are insufficient to cover production costs. Ukraine is having problems obtaining fresh fuel from Russian suppliers, because it has not been able to pay them for some time. Another problem said to bedevil Ukraine's nuclear industry is that many qualified nuclear power specialists are leaving for Russia, where pay is supposedly better; allegedly, also, tense relations between ethnic Russians and Ukrainians are hastening the formers' departure. Reportedly, the situation is beginning to have an impact on the reliable operation of the nuclear facilities in Ukraine. See also **a. Background**, above. (**NuclearFuel**, 17/1; **Nucleonics Week**, 3/2)

- The Thorp reprocessing plant in the **United Kingdom** started the first phase of active commissioning on 17 January. The United States Administration has approved a request from **Switzerland** for the shipment of spent fuel of US origin to Thorp. The environmental organisation *Greenpeace*, asserting that a public inquiry should have been held before the licence was issued, won the right to a judicial review; on 4 March a High Court judge ruled that the authorisations had been lawfully granted and rejected a local public inquiry. *Greenpeace* has said it will not challenge the decision. (**Independent**, 14/1; **Times**, 14/1; **Daily Telegraph**, 14/1; **Ens NucNet**, 17/1, 7/3; **NuclearFuel**, 17/1, 31/1; **Financial Times**, 18/1, 8/3; **Washington Post**, 28/1; **Guardian**, 31/1)

i. Weapons-related Developments in Nuclear-Weapon States

- **France** is reportedly thinking of replacing the eighteen strategic nuclear missiles deployed on the Highlands of Albion, that have a range of 5,000 km by multiple-warhead missiles with a range of 8,000 km. (**Le Monde**, 11/1)

- In the **United States**, besides information on a range of experiments carried out on humans, largely without their 'informed consent', a growing number of reports are surfacing about persons subjected to radiation as a result of atmospheric nuclear testing. Additionally, cancer victims or their relatives at or near underground test

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sites, in increasing numbers, claim that they have been exposed to high levels of radiation which allegedly caused an exceptionally high incidence of cancer, especially childhood leukaemia. There are also many Pacific Islanders who still feel entitled to compensation for harm done to their persons or to their property by nuclear tests. Against a background of increasing anger at the casual manner in which the Federal Government used to pass off the risks presented by the tests, the authorities are now criticised for apparent indifference to the suffering caused, having set what are considered unreasonably narrow criteria to qualify for compensation and making it very difficult for claimants to prove their case. So far, a total of only $200 million has been made available as compensation for so-called 'down-winders', who, or whose survivors, are thought to number in the thousands. The fact that the kinds of cancer for which compensation may be awarded are limited to 13 also causes resentment. The greater openness in these matters evidenced by the present US Administration, and particularly the Secretary of Energy, Hazel O'Leary, is raising hopes that Federal compensation policies may change. Some government officials and members of Congress are warning, however, that too forthcoming a policy in this regard might involve great expense and should be discouraged. The White House has set up a task force on radiation to review nuclear experiments conducted on human beings in the period 1944–74. It is made up of representatives of federal agencies, including the National Aeronautics & Space Administration (NASA), the National Security Council, the Central Intelligence Agency, the Office of Management and Budget and the Departments of Energy, Defense, Veterans Affairs, Justice and Health and Human Services. The committee will meet weekly and will compile information on the experiments, locate the individuals subjected to tests, determine whether they had been duly informed of the risks and had given informed consent and assess the damages they suffered, if any. There is also talk about the creation of an independent committee that would advise the Administration on the basis of information to be disclosed by these federal agencies. (**Economist**, 8/1; **New York Times**, 9/1, 10/1, 11/1, 12/1, 13/1; **Washington Post National Weekly Edition**, 17-23/1; **UPI** [Washington], 18/1)

- Also in the **United States**, the Department of Energy has promised to declassify documents on past American nuclear activities and for the future to review legislation that mandates that such documents are automatically categorised as secret or classified, the moment they have been generated. Press reports speak of the existence of 32 million pages of secret text. Washington's move towards greater openness is lauded in scientific and academic circles and the media, but derided by conservatives in Congress, and members of the previous Administration. (**New York Times**, 9/1, 12/1; **direct information**)

j. Developments of Concern for Horizontal Proliferation

- There are still reports in the press of contacts between military and nuclear authorities in **Iran** and officials of the **Czech** company, Skoda Pilsen, on the sale of military equipment and reactor components. The **German** government is said to keep a careful watch on exports to Iran, after intelligence reports that it is involved in non-peaceful projects. The **United States** is reputedly concerned about German trade with Iran, but German industry claims that in 1993 the United States did more business with Iran than did Germany. It is said that IAEA officials who visited Iran last year saw large amounts of sophisticated dual-use equipment. (**Le Monde**, 21/1; **NuclearFuel**, 14/3)

- By early 1994 the IAEA had sent 22 inspection teams to **Iraq** to inspect facilities, interview key personnel, inventory nuclear materials, identify prohibited items and carry out destruction and removal operations. It has come to the conclusion that if Iraq's clandestine nuclear programme could have continued on the same scale and at the same pace, it would have taken several more years to complete a nuclear weapon. In the view of the IAEA, the facilities which it found at nine dedicated sites were suggestive of a 'grandiose and over-designed program'; a crude weapon could have been produced without many of the specialised facilities Iraq had built. Much of the equipment it has acquired has been destroyed but the IAEA is concerned that, notwithstanding sanctions and future monitoring, on the basis of the acquired technical experience Iraq might be able to conduct an experimental programme and make calculations, simulations and designs with a low probability of being detected. The question of the export of dual-use items to Iraq remains a subject of debate in a number of industrial countries. In the **United Kingdom**, the 'Scott inquiry' into allegations that government officials allowed, or even encouraged, the export of dual-use technologies and equipment to Iraq, in contravention of government guidelines, continues to attract media attention. The inquiry, which operates under its own *ad hoc* rules, has been criticised by senior civil servants who claim that the procedures do not permit them to make their case adequately. Reportedly as a result of the slowness with which documents requested by Lord Justice Scott are released, the report of the inquiry is not expected before July. There are a growing number of allegations in the press that members of the government have tried to suppress information, have withheld evidence helpful to the defence in the Matrix Churchill trial and have misled Parliament in order to hide their own responsibility. The leading prosecution counsel in the Matrix Churchill case recently stated at the inquiry that the case would not have come to court if the prosecution had been told what the government knew about exports to Iraq. The press sees a connection between the inquiry and a court order banning disclosure of documents in another case, where British firms supposedly exported equipment to Iraq which, according to United Nations findings, was used in that country's nuclear-weapon programme. In December 1993, *Trust & Verify* quoted a letter of the preceding October which it says was sent by the IAEA Action Team Leader and the Executive Chairman of the UN Special Commission (UNSCOM) to Iraq's Foreign Minister, promising that since Iraq has provided information they required on critical foreign suppliers, they will use that information solely for purposes of verification and will treat it as confidential. UNSCOM is said to be speeding up the current monitoring exercise and to be advancing its plans for long-term monitoring, so as to bolster the position of those Iraqi officials who

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support cooperation with the United Nations. On 2 February, the second and final consignment of highly enriched uranium in irradiated fuel was shipped in crash-proof casks to Russia, where it will be reprocessed. (**Trust & Verify**, No. 43, December 1993; **IAEA Fact Sheet**, January; **Financial Times**, 8/1, 12/1, 22/1, 24/2, 1/3; **Guardian**, 8/1, 22/1, 26/1, 24/2, 1/3; **Standard**, 9/1; **Sunday Telegraph**, 9/1; **Independent**, 11/1, 13/1; **Times** [London], 11/1, 13/1, 25/1; **Daily Telegraph**, 13/1, 22/1, 26/1, 22/3; **New York Times**, 13/2; **IAEA Press Release** PR 94/3, 15/2)

- The government of **Japan** has categorically denied a report in the British newspaper *The Sunday Times*, that the crisis on the Korean Peninsula was threatening to force Japan to abandon its non-nuclear stance, and that it had acquired all the parts necessary to make a nuclear weapon and might even have built a bomb in which only the fissionable material would have to be inserted. A warning to this effect was reportedly contained in a confidential study of December 1993, by the UK Ministry of Defence. The US Administration has reportedly been concerned for some time that, if it becomes likely that the DPRK indeed has nuclear weapons, Japan, possibly pressured by nationalist elements, might reverse its long-standing non-nuclear-weapon policy and establish its own nuclear deterrence; such thoughts have also been expressed in the US Congress. Even after the recent denials American observers take account of the possibility that at some future time Japan might drop its ban on nuclear-weapons development. Some say that given its great nuclear know-how and the possession of a large stock of nuclear material, from which it would be able very quickly to make weapons, Japan already has a *de facto* nuclear deterrent. Western press comments connect Tokyo's prompt and strong denials of the allegation with its concern about foreign criticism of its plutonium policy and the wish to avoid the wrong conclusion being drawn from remarks made by members of the previous government, that the NPT should not be extended indefinitely. That view was again presented at an international round table-conference in Tokyo, in mid-February, together with calls for amendments and clarifications of the Treaty. The influential Japanese nuclear expert, Prof. Ryukichi Imai, is quoted as wishing to see the Treaty extended for 25 years.

  On 4 February Japan successfully launched the H-II rocket, the first major rocket it has developed completely indigenously. As reported, the rocket, said to be capable of placing a two-ton satellite into a geo-stationary orbit 36,000 km above the earth, took ten years to develop, at a cost of ¥270 billion; given its cost of ¥19 billion, or almost twice that of Europe's *Ariane-4*, there appears to be doubt about its commercial use. (**Sunday Times**, 30/1; **Atoms in Japan**, Vol. 38, No. 2, Feb.; **Mainichi Shimbun** [Tokyo], 1/2; **Libération**, 1/2; **International Herald Tribune**, 1/2, 2/2 ;**Frankfurter Allgemeine Zeitung**, 2/2; **New York Times**, 2/2; **Nucleonics Week**, 3/2, 3/3)

- More has become known about **South Africa**'s nuclear programme and the amounts of enriched uranium it has produced, including the enrichment levels. An IAEA official is reported to have said that the U-235 balance associated with the country's pilot enrichment plant at Pelindaba shows a quantity of enriched uranium unaccounted for that would be about enough to make one nuclear bomb. However, the Agency's findings are said to indicate a high degree of correspondence between the amounts of material declared by South Africa and the IAEA's own calculations of the material that would have been produced. It now appears that when Pretoria admitted that it had built, and then dismantled, six nuclear explosive devices, it did so under pressure from the United States, which threatened to reveal what it knew about South Africa's weapons programme. It is now clear that the IAEA also suspected that there had been a military programme. One indication, besides the fact that the declared nuclear material inventory included 350 kg of weapons-grade uranium, is said to have been that 700 kg, or almost half of the output of the enrichment plant, had been converted to metallic uranium. The Safari-1 research reactor uses a few kg a year of metallic uranium at 45 per cent U-235.

  Among a variety of indications published in the press, notably *Nucleonics Week*, that South Africa may have been gearing up for the production of advanced nuclear weapons, there are reports said to come from the IAEA and from Soviet intelligence that South Africa had pilot projects for the production of tritium and lithium-6 for possible use in advance-type nuclear weapons (boosted devices), and it is also said that it made design studies for a 150-MW natural-uranium reactor, and did some work on plutonium extraction. It is further alleged that in the 1970s, South Africa made several secret deals with **Israel**, under which it supplied the latter with 500–600 tons of U_3O_8 and received 30 grams of tritium in return — enough, it is claimed, for 12 advanced nuclear weapons. Reputedly, in the 1980s Israel obtained in the United States a large number of detonation capacitors that could be used for conventional as well as nuclear warheads. A report ascribed to US sources claims that it may have re-exported several hundreds of these to South Africa for use in developing implosion-type nuclear weapons. South African media accuse President de Klerk of being less than truthful when, in disclosing information about South Africa's nuclear programme, he denied that there had been cooperation with other countries. Both the President and the head of the Atomic Energy Corporation of South Africa Ltd (AEC) have denied this.

  There is a report that the African National Congress (ANC) and the AEC have tentatively agreed not to accept the American offer to buy the high-enriched uranium from South Africa's weapons programme. The AEC is said to plan blending all weapons-grade uranium down to the level where it can serve as fuel for the Safari-1 reactor. An official of the US Congressional Office of Technical Assessment is reported to have said at an ANC-sponsored conference in Capetown, in February, that a democratic South Africa should retain the nuclear option and that it would be ill-advised for South Africa and Africa in general to subscribe to non-proliferation treaties; he is quoted as pronouncing himself against an African nuclear weapon-free zone, and in favour of the expansion of nuclear research and nuclear power and amendment of the NPT, in concert

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with the Organization of African Unity (OAU). (**Guardian**, 11/2; **Weekly Mail and Guardian** [Johannesburg], 11/2; **NuclearFuel**, 14/2; **Nucleonics Week**, 20/1, 3/3, 10/3)

k. Environmental Issues

- On 15 March, a 31-day survey began of radioactive waste in the Sea of Japan, by **Japan**, **South Korea**, **Russia** and the IAEA. The survey was originally planned for January, but had to be postponed, because the various organisations concerned in Russia allegedly disagreed about the purpose and direction of the exercise. Shortly before the entry into force, on 21 February, of the ban on ocean dumping of low-level waste, adopted at the consultative meeting of the London Convention of November 1993, **China** and the **United Kingdom** decided to accept it; their decision is said to have come as a surprise to environmentalists who point out that the latter country in particular will now be faced with the question where to store its low-level waste as well as its obsolete submarines, which it had earlier hoped to bury at sea. Reportedly, there are seven redundant nuclear submarines waiting for disposal, of which at least the reactor compartments were destined to be sunk in the ocean. For the time being, these boats are expected to be stored afloat. London has said that it still considered that there were good arguments for disposal at sea, but it recognised the weight of international opinion in the matter; however, it would re-open negotiations if opinion changes in favour of dumping at sea. China is said to have used 38 off-shore dumpsites for various forms of waste; it has said that it will phase-out their use. **Belgium** and **France** have also subscribed to the ban. Russia has repeatedly stated that it cannot accept measures that would stop it from ocean dumping: its navy has hardly any waste storage space left, and Moscow says it would need financial and technical assistance, presumably in finding land-based solutions, before it could respect a ban on ocean dumping. Reportedly, Russia has told South Korea that if it and Japan did not help it with the construction of a radioactive waste facility, it would have to dump nuclear submarines in the Sea of Japan. In an attempt to find an interim solution, Russia has asked Japan for tankers to store liquid rad-waste. (**Nucleonics Week**, 6/1, 13/1, 24/2; **Independent**, 18/2; **Sankei Shinbun**, 19/2; **Guardian**, 19/2; **Financial Times**, 19-20/2; **Ens NucNet**, 21/2; **Mainichi Shinbun**, 24/2)

- The **Russian** daily *Isvestia* reports that a gigantic subterranean deposit of radioactive waste from the nuclear-weapons centre at *Krasnoyarsk-26* is threatening to pollute the river *Jennissei*, which runs into the Arctic Ocean. (**Neue Zürcher Zeitung**, 27/1)

- Once again there are reports that the wreck of the Soviet submarine *Komsomoletz*, which sank in 1989, 300 miles off the Norwegian coast, is posing a threat to the environment and that the need for measures to prevent the spread of radioactivity from the warheads in the two torpedoes on board is becoming urgent. It now appears that there is also concern that the reactor of the vessel will soon start to cause risk of radioactive pollution. Meanwhile, there is another report about dangers posed by a Soviet *Yankee*-class submarine that sank in 1986, about 500 miles east of Bermuda, in waters three miles deep. Besides two nuclear reactors, this boat is thought to have carried two nuclear-tipped torpedoes and 16 strategic nuclear missiles. Reportedly, the missiles and warheads were badly damaged and scattered on the ocean floor and are expected to have corroded and to be leaking nuclear material. Concern arises from the position of the wreck, in an area of fast, deep currents. (**Süddeutsche Zeitung**, 28/1; **Die Welt**, 28/1; **New York Times**, 8/2; **Times** [London], 9/2, 14/3; **Die Welt**, 9/2)

II. PPNN Activities

- On 4–7 May, in the Eurobuilding Hotel, Caracas, Venezuela, PPNN will hold a regional seminar on issues likely to arise at the 1995 NPT conference, and matters of regional concern. All states in the Americas and signatories to the protocols to the Treaty of Tlatelolco from outside the region have been invited to send representatives to the seminar. In its meeting following the seminar, on 8 and 9 May, PPNN's Core Group will focus on a review of the current non-proliferation regime and situation, and new initiatives to strengthen them.

  Additional funding for the regional seminar has been provided by the John D. and Catherine T. MacArthur Foundation and the John Merck Fund.

- **PPNN Study 5**, 'Nuclear Verification Under the NPT: What Should it Cover — How Far May it Go?', by George Bunn and Roland Timerbaev, will be published and distributed in early April. This study addresses the activities, other than the diversion or clandestine production of fissile materials, that non-nuclear-weapon state parties to the NPT are prohibited from undertaking.

III. Recent Publications

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David Cox, 'Exploring An Agenda for Peace: Issues Arising from the Report of the Secretary-General', *Aurora Papers 20*, Canadian Centre for Global Security, October 1993, 48 pp.

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IV. Documentation

Trilateral Statement by the Presidents of the United States of America, the Russian Federation and Ukraine, 14 January 1994.

President Clinton, Yeltsin and Kravchuk met in Moscow on January 14. The three Presidents reiterated that they will deal with one another as full and equal partners and that relations among their countries must be conducted on the basis of respect for the independence, sovereignty and territorial integrity of each nation.

The three presidents agreed on the importance of developing mutually beneficial, comprehensive and cooperative economic relations. In this connection, they welcomed the intention of the United States to provide assistance to Ukraine and Russia to support the creation of effective market economies.

The three presidents reviewed the progress that has been made in reducing nuclear forces. Deactivation of strategic forces is already well underway in the United States, Russia and Ukraine. The Presidents welcomed the ongoing deactivation of RS-18s (SS-19s) and RS-22s (SS-24s) on Ukrainian territory by having their warheads removed.

The presidents look forward to the entry into force of the START I Treaty, including the Lisbon Protocol and associated documents, and President Kravchuk reiterated his commitment that Ukraine accede to the Nuclear Non-Proliferation Treaty as a non-nuclear-weapon state in the shortest possible time. Presidents Clinton and Yeltsin noted that entry into force of START I will allow them to seek early ratification of START II. The Presidents discussed, in this regard, steps their countries would take to resolve certain nuclear weapons questions.

The presidents emphasized the importance of ensuring the safety and security of nuclear weapons pending their dismantlement.

The presidents recognize the importance of compensation to Ukraine, Kazakhstan and Belarus for the value of the highly-enriched uranium in nuclear warheads located on their territories. Arrangements have been worked out to provide fair and timely compensation to Ukraine, Kazakhstan and Belarus as the nuclear warheads on their territory are transferred to Russia for dismantling.

Presidents Clinton and Yeltsin expressed satisfaction with the completion of the highly-enriched uranium contract, which was signed by appropriate authorities of the United States and Russia. By converting weapons-grade uranium into uranium which can only be used for peaceful purposes, the highly-enriched uranium agreement is a major step forward in fulfilling the countries' mutual non-proliferation objectives. The three presidents decided on simultaneous actions on transfer of nuclear warheads from Ukraine and delivery of compensation to Ukraine in the form of fuel assemblies for nuclear power stations.

Presidents Clinton and Yeltsin informed President Kravchuk that the United States and Russia are prepared to provide security assurances to Ukraine. In particular, once the START I Treaty enters into force and Ukraine becomes a non-nuclear-weapon state party to the Nuclear Non-Proliferation Treaty (NPT), the United States and Russia will:

- reaffirm their commitment to Ukraine, in accordance with the principles of the CSCE Final Act, to respect the independence and sovereignty and the existing borders of the CSCE member states and recognize that border changes can be made only by peaceful and consensual means; and
- reaffirm their obligation to refrain from the threat or use of force against the territorial integrity or political independence of any state, and that none of their weapons will ever be used except in self-defence or otherwise in accordance with the Charter of the United Nations;
- reaffirm their commitment to Ukraine, in accordance with the principles of the CSCE Final Act, to refrain from economic coercion designed to subordinate to their own interest the exercise by another CSCE participating state of the rights inherent in its sovereignty and thus to secure advantages of any kind;
- reaffirm their commitment to seek immediate UN Security Council action to provide assistance to Ukraine, as a non-nuclear-weapon state party to the NPT, if Ukraine should become a victim of an act of aggression or an object of a threat of aggression in which nuclear weapons are used;
- reaffirm, in the case of Ukraine, their commitment not to use nuclear weapons against any non-nuclear-weapon state party to the NPT, except in the case of an attack on themselves, their territories or dependent territories, their armed forces, or their allies, by such a state in association or alliance with a nuclear weapon state.

Presidents Clinton and Yeltsin informed President Kravchuk that consultations have been held with the United Kingdom, the third depositary state of the NPT, and the United Kingdom is

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prepared to offer the same security assurances to Ukraine once it becomes a non-nuclear-weapon state party to the NPT.

President Clinton reaffirmed the United States commitment to provide technical and financial assistance for the safe and secure dismantling of nuclear forces and storage of fissile materials. The United States has agreed under the Nunn-Lugar Program to provide Russia, Ukraine, Kazakhstan and Belarus with nearly $800 million in such assistance, including a minimum of $175 million to Ukraine. The United States Congress has authorized additional Nunn-Lugar funds for this Program, and the United States will work intensively with Russia, Ukraine, Kazakhstan and Belarus to expand assistance for this important purpose. The United States will also work to promote rapid implementation of the assistance agreements that are already in place.

Annex

The three presidents decided that, to begin the process of compensation for Ukraine, Russia will provide to Ukraine within 10 months fuel assemblies for nuclear power stations containing 100 tons of low-enriched uranium. By the same date, at least 200 nuclear warheads from RS-18 (SS-19) and RS-22 (SS-24) missiles will be transferred from Ukraine to Russia for dismantling. Ukrainian representatives monitor the dismantling of these warheads. The United States will provide $60 million as an advance payment to Russia, to be deducted from payments due to Russia under the highly-enriched uranium contract. These funds would be available to help cover expenses for the transportation and dismantling of strategic warheads and the production of fuel assemblies.

All nuclear warheads will be transferred from the territory of Ukraine to Russia for the purpose of their subsequent dismantling in the shortest possible time. Russia will provide compensation in the form of supplies of fuel assemblies to Ukraine for the needs of its nuclear power industry within the same time period.

Ukraine will ensure the elimination of all nuclear weapons, including strategic offensive arms, located on its territory in accordance with the relevant agreements and during the seven-year period as provided by the START I Treaty and within the context of the Verkhouna Rada statement on the non-nuclear status of Ukraine. All RS-22s (SS-24s) on the territory of Ukraine will be deactivated within ten months by having their warheads removed.

Pursuant to agreements reached between Russia and Ukraine in 1993, Russia will provide for the servicing and ensure the safety of nuclear warheads and Ukraine will cooperate in providing conditions for Russia to carry out these operations.

Russia and the United States will promote the elaboration and adoption by the IAEA of an agreement placing all nuclear activities of Ukraine under IAEA safeguards, which will allow the unimpeded export of fuel assemblies from Russia to Ukraine for Ukraine's nuclear power industry.

Joint Statement by the President of the Russian Federation and the President of the United States of America on Non-proliferation of Weapons of Mass Destruction and the Means of Their Delivery January 14, 1994

President Clinton and President Yeltsin, during their meeting in Moscow on January 14, 1994, agreed that the proliferation of weapons of mass destruction and their missile delivery systems represents an acute threat to international security in the period following the end of the Cold War. They declared the resolve of their countries to cooperate actively, and closely with each other, and also with other interested states,for the purpose of preventing and reducing this threat.

The Presidents noted that the proliferation of nuclear weapons creates a serious threat to the security of all states, and expressed their intention to take energetic measures aimed at prevention of such proliferation.

- Considering the Treaty on the Non-Proliferation of Nuclear Weapons as the basis for efforts to ensure the nonproliferation of nuclear weapons, they called for its indefinite and unconditional extension at conference of its participants in 1993, and they urgent that all states that have not yet done so accede to this treaty.
- They expressed their resolve to implement effective measures to limit and reduce nuclear weapons. In this connection, they advocated the most rapid possible entry into force of the START I and START II treaties.
- They agreed to review jointly appropriate ways to strengthen security assurances for the states which have renounced the possession of nuclear weapons and that comply strictly with their non-proliferation obligations.
- They expressed their support for the International Atomic Energy Agency in its efforts to carry out its safeguards responsibilities. They also expressed their intention to provide assistance to the agency in the safeguards field, including through joint efforts of their relevant laboratories to improve safeguards.
- They supported the Nuclear Suppliers Group, and agreed with the need for effective implementation of the principle of full-scope IAEA safeguards as a condition for nuclear exports with the need for export controls on dual-use materials and technology in the nuclear field.
- They reaffirmed their countries' commitment to the conclusion as soon as possible of an international treaty to achieve a comprehensive ban on nuclear test explosions and welcomed the decision to begin negotiations at the conference on disarmament. They declared their firm intention to provide political support for the negotiating process, and appealed to other states to refrain from carrying out nuclear explosions while these talks are being held.
- They noted that an important contribution to the goal of non-proliferation of nuclear weapons would be made by a verifiable ban on the production of fissile materials for nuclear weapons and by the most rapid conclusion of an international convention to this effect with the widest possible participation of states and on a non-discriminatory basis.
- They agreed to cooperate with each other and also with other states to elaborate measures designed to prevent the accumulation of excessive stocks of fissile materials and over time to reduce such stocks.
- They agreed to establish a joint work group to consider:
  a) including in their voluntary IAEA safeguards offers all source and special fissionable materials, excluding only those facilities associated with activities having direct national security significance;
  b) steps to ensure the transparency and irreversibility of the process of reduction of nuclear weapons, including the possibility of putting a portion of fissionable material under IAEA safeguards. Particular attention would be given to materials released in the process of nuclear disarmament and steps to ensure that these materials would not be used again for nuclear weapons.
- The Presidents also tasked their experts to study options for the long-term disposition of fissile materials, particularly of plutonium, taking into account the issues of nonproliferation, environmental protection, safety, and technical and economic factors.
- They reaffirmed the intention of interested organizations of the two countries to complete within a short time a joint study of the possibilities of terminating the production of weapon-grade plutonium.
- The Presidents agreed that reduction of the risk of theft or diversion of nuclear materials is a high priority, and in this context they noted the usefulness of the September 1993 Agreement to cooperate in improving the system of controls, accounting, and physical protection for nuclear materials. They attached great significance to further joint work on the separate but mutually connected problems of accounting for nuclear materials used in the civilian and military fields.

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Both Presidents favoured a further increase in the efforts to prevent the proliferation of chemical and biological weapons.

- As the heads of the countries that have the world's largest stockpiles of chemical weapons, they acknowledged particular responsibility for eliminating the threat posed by these weapons. In this context, they declare their resolute support for the Convention on the Prohibition of Chemical Weapons, and their intention to promote ratification as rapidly as possible and entry into force of the convention not later than 1995.
- To promote implementation of a comprehensive ban on chemical weapons, they welcomed the conclusion of the implementing documents for the Wyoming Memorandum of Understanding and agreed to conclude work in as short a time as possible on the implementing documents for the Bilateral Agreement on the Destruction of Chemical Weapons.
- The Presidents reaffirmed their desire to facilitate the safe, secure, timely, and ecologically sound destruction of chemical weapons in the Russian Federation and the United States. They applauded the joint Chemical Weapons Destruction Work Plan recently concluded between the two countries which leads the way for the United States to provide an additional $30 million in assistance to support an analytical chemical laboratory in Russia to facilitate chemical weapons destruction. The United States also agreed to consider appropriate additional measures to support Russia's chemical weapons destruction program.
- They reiterated the importance of strict compliance with the convention on the Prohibition of Biological and Toxin Weapons and of continued implementation of measures in accordance with the Russia-America-British Statement of September 1992, which provided inter alia for the reciprocal visits of facilities and meetings between experts in order to ensure confidence in the compliance with the convention.
- They supported convening a special conference of the states' parties to the Convention on the Prohibition of Biological and Toxin Weapons in order to consider measures that would contribute to transparency and thereby confidence in compliance with the convention and its effectiveness.

The Presidents expressed the determination of their countries to cooperate with each other in preventing the proliferation of missiles capable of carrying weapons of mass destruction.

- They welcomed the conclusion of the Bilateral Memorandum of Understanding between the government of the Russian Federation and the government of the United States of America concerning the Export of Missile Equipment and Technologies, signed in September 1993, noted the importance of this agreement for ensuring mutually beneficial cooperation between the United States and Russia in the field of space exploration, and agreed to collaborate closely in order to ensure its full and timely implementation.
- The United States welcomed Russia's intention to join the Missile Technology Control Regime and undertook to cooperate with Russia in facilitation of its membership at an early date. The Russian Federation and the United States of America are certain that further improving the MTCR, including the prudent expansion of membership, will help reduce the threat of proliferation of missiles and missile technologies in the regional context as well.

The Presidents of the two countries agreed that, in addition to strengthening global norms of nonproliferation and working out agreements to this effect, close cooperation is essential in order to develop policies on nonproliferation applicable to specific regions posing the greatest risk of proliferation of weapons of mass destruction and their means of delivery.

- They agreed that nuclear weapons on the Korean Peninsula would represent a grave threat to regional and international security, and decided that their countries would consult with each other on ways to eliminate this danger. They called upon the DPRK to honour fully its obligation under the Treaty on the Non-Proliferation of Nuclear Weapons and its safeguards agreement with the IAEA in connection with the treaty, and to resolve the problems of safeguards implementation, inter alia, through dialogue between IAEA and DPRK. They also urged full and speedy implementation of the Joint Declaration of the ROK and the DPRK on Denuclearization of the Korean Peninsula.
- They support efforts to reach agreement on the establishment of a multilateral forum to consider measures in the field of arms control in nonproliferation that could strengthen security in South Asia. They call on India and Pakistan to join in the negotiation of and become original signatories to the Treaty Banning Nuclear Weapons Test Explosions and the proposed Convention to Ban Production of Fissile Materials for Nuclear Explosives and to refrain from deploying ballistic missiles capable of delivering weapons of mass destruction to each other's territories.
- They agreed that the United States and Russia, as co-chairs in the Middle East peace process, would actively promote progress in the activity of the working group for Arms Control and Regional Security in the Middle East, striving for speedy implementation of confidence-building measures and working toward turning the Middle East into a region free of weapons of mass destruction, where conventional forces would not exceed reasonable defense needs.
- They firmly supported the efforts of the U.N. Special Commission and the IAEA to put into operation a long-term monitoring system of the military potential of Iraq, and called upon Iraq to comply with all U.N. Security Council resolutions.

Resolution of the Verkhovna Rada [Parliament] of Ukraine Regarding Article V of the Lisbon Protocol to the START I Treaty, 3 February 1994

On the implementation by the President of Ukraine and the Government of Ukraine of the recommendations contained in the para 11 of the Resolution of the Verkhovna Rada of Ukraine 'On the Ratification of the Treaty between the Union of Soviet Socialist Republics and the United States of America on the Reduction and Elimination of Strategic Offensive Arms' signed in Moscow on July 31, 1991, and Protocol to it signed in Lisbon on behalf of Ukraine on May 23, 1992.

The Verkhovna Rada of Ukraine:

- taking into account the concrete measures taken by the President and the Government of Ukraine during November 1993–January 1994 concerning implementation of provisions of the Resolution of the Verkhovna Rada of November 18, 1993;
- proceeding from the results of the meeting of the Presidents of Ukraine, the United States of America and the Russian Federation in Moscow on January 14, 1994, as well as the Trilateral Statement and the Annex thereto signed by them;
- taking into account the fact that Ukraine has received the assurances on the side of the Presidents of USA and Russia about their readiness to provide Ukraine with the guarantees of the national security after entry into force of the START-I Treaty and accession of Ukraine to the Treaty on the non-proliferation of nuclear weapons (NPT) as a non-nuclear-weapon state, as well as bearing in mind the obligations on the side of the United States and Great Britain toward Ukraine to respect independence, sovereignty and existing boundaries, to refrain from the threat by force or its use against territorial integrity or political independence, to refrain from economic pressure and the commitment not to use any weapons against Ukraine;
- taking into consideration the confirmation by the Presidents of Ukraine, USA and Russia that their relations will be built on the basis of respect of independence, sovereignty and territorial integrity of each state, as well as the confirmation of their readiness to provide assistance in the establishment of the effective market economy in Ukraine;

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- recognizing the fact the United States of America assured Ukraine in providing technical and financial assistance for the safe and secure dismantlement of the nuclear weapons and storing of fissionable material, as well as contribution to the fast realization of the already existing agreements in connection with such an assistance;
- taking into account, that in accordance with the Protocol 'On the Procedure of the Control over the Elimination of Nuclear Munitions Transferred from the Territory of Ukraine to the Industrial Enterprises of the Russian Federation' the representatives of the Ministry of Defense of Ukraine will realize control over the dismantlement and elimination of the strategic nuclear charges on the territory of Russia, that will exclude the re-use of the components of these charges for their original purpose;
- taking also into account the obligation of Russia to provide for the servicing and safety of nuclear charges;
- proceeding from the fact that Ukraine will get the fair compensation for the cost of highly-enriched uranium and other components of all the nuclear weapons, the owner of which Ukraine is;
- taking into consideration the arrangements on providing Ukraine with fair and timely compensation for the cost of highly-enriched uranium on the Russian Federation and the United States of America while nuclear warheads are being withdrawn from Ukraine to Russia for dismantlement and that measures on withdrawal and providing compensation to Ukraine are simultaneous;
- proceeding from the fact that the United States of America, The Russian Federation and Ukraine will steadily comply with the arrangements contained in the Trilateral Statement and the Annex thereto, and with the existing agreements among them and with those which will be concluded concerning the nuclear weapons deployed on the territory of Ukraine;
- considering that the above-mentioned facilities the implementation of the conditions and reservations which were made in the Resolution of November 18, 1993.

Resolves:

1. Bearing in mind the concrete measures taken by the President and the Government of Ukraine on the implementation of the provisions of the Resolution of the Verkhovna Rada of November 18, 1993, the meeting steps on behalf of the USA and Russia, to remove the restriction in respect of the Article V of the Protocol to the START-I Treaty signed in Lisbon on May 23, 1993.
2. To instruct the Government of Ukraine to realize the exchange of the instrument of ratification on the START-1 Treaty and to intensify the activities on concluding specific international agreements resulting from the reservations contained in the Resolution of the Verkhovna Rada of Ukraine on the Ratification of the START-I Treaty.

Progress Report of the Preparatory Committee for the 1995 Conference of the Parties to the Treaty on the Non-proliferation of Nuclear Weapons. [extracts]

Participation in the Work of the Preparatory Committee

States non-parties to the NPT

Representatives of States non-parties to the Non-Proliferation Treaty shall be allowed, upon request, to attend as observers the meetings of the Committee other than those designated closed meetings, to be seated in the Committee behind their countries' nameplates, and to receive documents of the Committee. They shall also be entitled, at their own expense, to submit documents to the participants in the Committee.

Non-governmental organizations

Representatives of non-governmental organizations shall be allowed, upon request, to attend the meetings of the Committee other than those designated closed meetings, to be seated in the public gallery, to receive documents of the Committee and, at their own expense, make written material available to the participants in the Committee. They shall also be given an opportunity, during the third session of the Preparatory Committee, to hold a briefing for those interested on the margins of the Committee's deliberations and at no additional expense to the latter.

Rules of procedure of the Conference

Following a first reading, the Committee established an informal drafting group to work on the draft rules of procedures as contained in document NPT/CONF.1995/PC.1/CRP.1 of 7 May 1993. The drafting group held two meetings and had a preliminary consideration of a number of written and oral suggestions. Taking account of the preliminary consideration, the Chairman is assembling a compilation of suggestions and textual amendments to facilitate the continuation of the drafting process at the third session of the Preparatory Committee.

Background documentation

1. The Preparatory Committee decided to invite the Secretary-General of the United Nations to prepare five papers, dealing with the overall implementation of the tenth preambular paragraph of the NPT; Articles I and II; Article VI; and Article VII; and with negative and positive security assurances. These papers should cover developments within the UN, the CD and other multilateral and bilateral forums. It invited the Director-General of the International Atomic Energy Agency (IAEA) to prepare comprehensive background documentation on the implementation of Articles III, IV and V. It also invited the Director-General of the Agency for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (OPANAL) and the Secretariat of the South Pacific Forum to prepare background papers dealing with their respective activities. The Committee requested that the papers be submitted for its third session.
2. The following general approaches shall apply to the proposed papers: All papers must give balanced, objective and factual descriptions of relevant developments, be as short as possible and be easily readable. They must refrain from presenting value judgements. Rather than presenting collections of statements, they should reflect agreements reached, actual unilateral and multilateral measures taken, understandings adopted, formal proposals for agreements made, and important political developments directly relevant to any of the foregoing. The papers should focus on the period since the Fourth NPT Review Conference. In order to make them self-contained, references to earlier developments should be included as appropriate.
3. Specifically:
   - The paper on the tenth preambular paragraph (comprehensive nuclear test ban) should reflect developments in the CD; developments within the framework of the UN; the PTBT amendment conference; and outside developments.
   - The paper on Articles I and II should draw largely on the relevant discussions and results of the first, second, third and fourth review conferences and take account of recent and current developments in the area of nuclear non-proliferation. To the extent necessary, the paper would include cross references to matters discussed in the paper by the IAEA on Article III.
   - The paper on Article VI should cover developments regarding cessation of the nuclear arms race, nuclear disarmament, and general and complete disarmament.
   - The paper on Article VII should deal with the issue of nuclear-weapon-free zones, and contain a brief description of the issue of zones of peace.
   - The paper on security assurances should deal with both positive and negative security assurances and reflect

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developments in the CD, in the UN, and proposals within the ambit of the NPT and elsewhere.

International Atomic Energy Agency INFCIRC/2/Rev.43, 1 February 1994 The Members of the Agency

On 31 January 1994 the 120 Members† of the Agency were as follows:

Afghanistan
Albania
Algeria
Argentina
Armenia
Australia
Austria
Bangladesh
Belarus
Belgium
Bolivia
Brazil
Bulgaria
Cambodia
Cameroon
Canada
Chile
China
Colombia
Costa Rica
Côte d'Ivoire
Croatia
Cuba
Cyprus
Czech Republic
Democratic People's Republic of Korea
Denmark
Dominican Republic
Ecuador
Egypt
El Salvador
Estonia
Ethiopia
Finland
France
Gabon
Germany
Ghana
Greece
Guatemala
Haiti
Holy See
Hungary
Iceland
India
Indonesia
Iran, Islamic Republic of
Iraq
Ireland
Israel
Italy
Jamaica
Japan
Jordan
Kenya
Korea, Republic of
Kuwait
Lebanon
Liberia
Libyan Arab Jamahiriya
Liechtenstein
Lithuania
Luxembourg
Madagascar
Malaysia
Mali
Marshall Islands
Mauritius
Mexico
Monaco
Mongolia
Morocco
Myanmar
Namibia
Netherlands
New Zealand
Nicaragua
Niger
Nigeria
Norway
Pakistan
Panama
Paraguay
Peru
Philippines
Poland
Portugal
Qatar
Romania
Russian Federation
Saudi Arabia
Senegal
Sierra Leone
Singapore
Slovak Republic
Slovenia
South Africa
Spain
Sri Lanka
Sudan
Sweden
Switzerland
Syrian Arab Republic
Thailand
Tunisia
Turkey
Uganda
Ukraine
United Arab Emirates
United Kingdom of Great Britain and Northern Ireland
United Republic of Tanzania
United States of America
Uruguay
Uzbekistan
Venezuela
Viet Nam
Yugoslavia
Zaire
Zambia
Zimbabwe

† The new members since the last list of Member States of the Agency was issued (INFCIRC/2/Rev.42) are: Armenia, Croatia, the Czech Republic, Lithuania, the Marshall Islands, the Slovak Republic and Uzbekistan. The Attachment hereto shows the dates on which the 120 States became members of the Agency, as well as those States whose application for membership of the Agency was approved by the General Conference, but who have not yet deposited an instrument of acceptance of the Statute.

Dates of Deposit of Instrument of Ratification or Acceptance by States thereby becoming a member of the Agency

Afghanistan	1957-05-31
Albania	1957-08-23
Algeria	1963-12-24
Argentina	1957-10-03
Armenia	1993-09-27
Australia	1957-07-29
Austria	1957-05-10
Bangladesh	1972-09-27
Belarus	1957-04-08
Belgium	1958-04-29
Bolivia	1963-03-15
Brazil	1957-07-29
Bulgaria	1957-08-17
Cambodia	1958-02-06
Cameroon	1964-07-13
Canada	1957-07-29
Chile	1960-09-19
China	1984-01-01
Colombia	1960-09-30
Costa Rica	1965-03-25
Côte d'Ivoire	1963-11-19
Croatia	1993-02-12
Cuba	1957-10-01
Cyprus	1965-06-07
Czech Republic	1993-09-27
Democratic People's Republic of Korea	1974-09-18
Denmark	1957-07-16
Dominican Republic	1957-07-11
Ecuador	1958-03-03
Egypt	1957-09-04
El Salvador	1957-11-22
Estonia	1992-01-31
Ethiopia	1957-09-30
Finland	1958-01-07
France	1957-07-29
Gabon	1964-01-21
Germany	1957-10-01
Ghana	1960-09-28
Greece	1957-09-30
Guatemala	1957-03-29
Haiti	1957-10-07
Holy See	1957-08-20
Hungary	1957-08-08
Iceland	1957-08-06
India	1957-07-16
Indonesia	1957-08-07
Iran, Islamic Republic of	1958-09-16
Iraq	1959-03-04
Ireland	1970-01-06
Israel	1957-07-12
Italy	1957-09-30
Jamaica	1965-12-29
Japan	1957-07-16
Jordan	1966-04-18
Kenya	1965-07-12
Korea, Republic of	1957-08-08
Kuwait	1964-12-01
Lebanon	1961-06-29
Liberia	1962-10-05
Libyan Arab Jamahiriya	1963-09-09
Liechtenstein	1968-12-13
Lithuania	1993-11-18
Luxembourg	1958-01-29
Madagascar	1965-03-22
Malaysia	1969-01-15
Mali	1961-08-10
Marshall Islands	1994-01-27
Mauritius	1974-12-31
Mexico	1958-04-07
Monaco	1957-09-19
Mongolia	1973-09-20
Morocco	1957-09-17
Myanmar	1957-10-18

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Namibia	1983-02-17
Netherlands	1957-07-30
New Zealand	1957-09-13
Nicaragua	1957-09-17[2]
	1977-03-25
Niger	1969-03-27
Nigeria	1964-03-25
Norway	1957-06-10
Pakistan	1957-05-02
Panama	1966-03-02
Paraguay	1957-09-30
Peru	1957-09-30
Philippines	1958-09-02
Poland	1957-07-31
Portugal	1957-07-12
Qatar	1976-02-27
Romania	1957-04-12
Russian Federation	1957-04-08
Saudi Arabia	1962-12-13
Senegal	1960-11-01
Sierra Leone	1967-06-04
Singapore	1967-01-05
Slovak Republic	1993-09-27
Slovenia	1992-09-21
South Africa	1957-06-06
Spain	1957-08-26
Sri Lanka	1957-08-22
Sudan	1958-07-17
Sweden	1957-06-19
Switzerland	1957-04-05
Syrian Arab Republic	1963-06-06
Thailand	1957-10-15
Tunisia	1957-10-14
Turkey	1957-07-19
Uganda	1967-08-30
Ukraine	1957-07-31
United Arab Emirates	1976-01-15
United Kingdom of Great Britain and Northern Ireland	1957-07-29
United Republic of Tanzania	1976-01-06
United States of America	1957-07-29
Uruguay	1963-01-22
Uzbekistan	1994-01-27
Venezuela	1957-08-19
Viet Nam	1957-09-24
Yugoslavia	1957-09-17
Zaire	1961-10-10
Zambia	1969-01-08
Zimbabwe	1986-08-01

1. This list refers to those States which were members of the Agency on 31 January 1994
2. Nicaragua withdrew from the Agency with effect from 14 December 1970; it became a member again on 25 March 1977

States whose application for membership of the Agency was approved by the General Conference but who have not yet deposited an instrument of acceptance of the Statute.

Kazakhstan	GC(XXXVII)/RES/606
Latvia	GC(XXV)/RES/549
The Former Yugoslav Republic of Macedonia	GC(XXXVII)/RES/607
Yemen	GC(XXXV)/RES/546

V. Comment from Readers

Mr. Otto Lendvai, of Budapest, a former senior official of the Hungarian National Atomic Energy Commission, reacts to the item on page 14 of **Newsbrief** No. 24, according to which in the 1950s, Soviet army units were heavily exposed to radiation from nuclear tests. The following is adapted from Mr. Lendvai's letter, which he hopes will give a more rounded picture of the event. The letter calls attention to a report in the September 1993 issue of the Russian *Bulletin of the Centre for Public Information on Atomic Energy*, published by Minatom, which is devoted entirely to Russian nuclear testing and includes a report on the exercise conducted near Totskoye on 14 September 1954, presumably the only such exercise in the former USSR. As reported, persons taking part say that during the explosion those troops that were between 5 and 7.5 km from ground zero were in shelters; those farther away were in trenches. They had gas masks and other means of protection, as well as dosimeters. After the nuclear explosion there were two non-nuclear ones, simulating nuclear explosions. Reportedly, only those could have been seen by the troops. The nuclear explosion, which had a yield of 40 kilotons, took place at 09.33, at 350 meters above ground level; most of the fallout is supposed to have risen and to have left a trail extending for hundreds of kilometres. According to the description as quoted by Mr. Lendvai, participants remained sheltered until well after the event, the first arriving at ground zero several hours after the blast, preceded by radiation technicians who marked particularly contaminated areas. Exposures received by participants would have been well below the range claimed in descriptions circulating now and indeed by the one that may be deduced from the text as published in the **Newsbrief**. The author of one report, an officer who took part in the test, claims to have been at ground zero a couple of hours after the blast to perform measurements. He describes walking over soil recently baked by the heat and turned into a crunchy, glassy substance. His exposure rate meter indicated a radiation intensity of 1R/h (Roentgen per hour), or 10 mSv/h (milliSieverts per hour); reportedly, troops passing through the area 400 meters from ground zero would have received doses of no more than .02–.03 R/h. It is noted that the permitted annual doses for radiation workers are between 15 and 50 mSv/yr. Concluding, Mr. Lendvai notes that a report of 1990 called it hardly probable that all or most of the health problem of participants in the exercise — of whom fewer than 1 per cent. 'passed through the epicentral zone' — could be ascribed to radiation exposure incurred at that time, although the possibility that some of those involved suffered health effects cannot be excluded.

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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