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Programme for Promoting Nuclear Non-Proliferation, Newsbrief, Number 46

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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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NEWSBRIEF

2nd Quarter 1999

Editorial Note

The **Newsbrief** is published every three months, under the auspices of the Programme for Promoting Nuclear Non-Proliferation (PPNN). It offers information about the spread of nuclear weapons and their means of delivery, and about moves to deter that spread; where appropriate reference is made to related developments with respect to other weapons of mass destruction and their means of delivery. The **Newsbrief** also refers to relevant developments in the realm of the peaceful use of nuclear energy. The contents of the **Newsbrief** are based on publicly available material.

This issue covers the period 25 March to 30 June 1999, inclusive.

The limited size of the **Newsbrief** makes it necessary to choose among available items of information and present them in condensed form. Selectivity is also called for because more than one publication may report on a single event in different, sometimes contradictory, ways. A further ground for cautious culling is the speculative nature of some media reports. Such reports are used only if there is reliable back-up information or if the fact of their publication is relevant in the framework of the **Newsbrief**.

Subheadings are used in the **Newsbrief** mainly for ease of presentation; they do not imply judgements on the nature of the events covered. Related developments that might logically be dealt with under separate subheadings may be combined under a single one if doing so makes the text more readable. This is done, for instance, under heading **j. Nuclear Material Trafficking and Physical Security**, where references to allegations about the acquisition by China of American information on nuclear weapons are linked with a discussion of current developments in relations between the two countries.

Unless otherwise indicated, dates (day/month) refer to 1999. Where reference is made to an uninterrupted series of items from a daily newspaper or news agency, only the first and last dates of the series are noted. For example, '6-25/5' following the name or symbol of a particular publication means that use has been made of items appearing there on each day from 6 to 25 May 1999. To save space, names of publications that are often referred to are abbreviated; a list is given on the back page.

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

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

I. Topical Developments

a. The Non-Proliferation Treaty

- The **Preparatory Committee for the 2000 Review Conference** held its third session in New York from 10 to 21 May. Representatives of 107 states parties to the NPT participated, as against 97 states who attended the second session, held in Geneva in 1998, and 147 who attended the first session, in New York, in 1997. Cuba and Israel attended the third session as observers. Pakistan, which had been an observer at the first session, did not attend; Brazil, which had been an observer at the

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first two sessions, attended the third session as a party. Representatives of the International Atomic Energy Agency (IAEA) participated in the session; the Agency for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (OPANAL), the South Pacific Forum, the European Commission, the League of Arab States and the Preparatory Commission for the Comprehensive Test Ban Treaty Organization (CTBTO) attended as observers.

Following an understanding reached at the first session, as subsequently adjusted, the session was chaired by Ambassador Camilo Reyes Rodriguez of Colombia, the representative of the Group of Non-Aligned and Other States (NAM), succeeding as such Ambassador Andelfo Garcia of that country, who served as Vice-Chairman of the second session but has since left the diplomatic service. Ambassador Markku Reimaa of Finland, again acted as Vice-Chairman in lieu of his compatriot Ambassador Pasi Patokallio, the representative of the Western Group who had chaired the first session and has since taken up a post abroad. As agreed, the other post of Vice-Chairman went to Poland on behalf of the Group of Eastern European States. The second session had been chaired by Ambassador Eugeniusz Wyzner of that country. In accordance with custom, Ambassador Wyzner opened the third session; he took the occasion to commemorate the victims of the NATO air attack on the Chinese embassy in Belgrade,

Early on during the proceedings, the Committee adopted the Chairman's proposal for an 'Indicative Timetable' and the agenda for the session. This foresaw an initial general exchange of views, focusing on the product the 2000 Review Conference would have to generate, and a discussion of procedural matters which the Committee at its second session had been unable to settle. It was further agreed to assign three days to so-called 'cluster debates' on the main issues covered by the NPT: nuclear disarmament; safeguards; and the peaceful uses of nuclear energy. In accordance with a previous decision, it was proposed that the Committee would devote time to three areas of special concern: nuclear disarmament; a convention banning the production of fissile material for nuclear weapons; and the 1995 Resolution on the Middle East. These matters would take most of the first week, and the remainder of the session was to be used for discussions on proposals for recommendations to the 2000 Review Conference. The general debate in plenary would be held in open session; subsequent discussions would be closed to the observers, representatives of non-governmental organizations (NGOs), and the public.

Since virtually all work was done in closed session, NGOs could be present only at the general debate which took one day at the beginning, and for a few minutes at the end, when the decisions agreed upon *in camera* were confirmed by the Chairman and he brought the session to a close. The other direct involvement of NGOs was when, in the afternoon of the second day, they were in a position to make presentations to the Preparatory Committee, and during a round table with delegates, on the evening of the same day. Extensive documentation provided by NGOs was displayed and distributed outside the meeting room. Several delegates held

briefings for NGOs, which yielded an opportunity for questions-and-answers.

At the start of the session, delegates received a number of working papers (documents NPT/CONF.2000/PC.III/1 through 6) submitted by states or groups of states, which contained proposals on ways in which the Preparatory Committee and the 2000 Review Conference should approach their tasks; on the products to be expected from both bodies; and on specific issues on which the Preparatory Committee should make recommendations to the 2000 Review Conference. Further papers were submitted in the course of the session, both as formal working papers of the session (documents NPT/CONF.2000/PC.III/7 through 26) and as informal papers. The papers produced before and at the start of the session, by, among others, the NAM, Canada, South Africa, the USA, Algeria — for the States Members of the League of Arab States — and Egypt, clearly showed the care with which many delegations had made their preparations, with the wish — often informally expressed during the session — that it should be possible to avoid the failure of a session that many considered a measure of the viability of the Strengthened Review Process.

From the outset, many of the statements and exchanges reflected the prevailing unfavourable international climate. In an early intervention China made clear that its participation in the session would not be 'business as usual'. It did not participate in the usual coordination among the P-5 states, thereby preventing them from adopting a joint statement. Besides China, a number of other states, among them the Russian Federation and leaders of the NAM, mentioned NATO's new strategic doctrine as a negative factor in international relations and depicted the issue of 'nuclear sharing' among NATO parties as a violation of Articles I and II of the NPT. In that context, a question that appeared to receive more attention than before was whether the Treaty would remain in force for states parties engaged in all-out war. The delegations that broached the matter held that this was indeed the case, so that the obligation of nuclear powers not to transfer nuclear weapons to non-nuclear weapon allies remained valid also in wartime. The US, to which this question was primarily addressed, did not respond. The issue of NATO's expansion was also responsible for acrimonious exchanges between Belarus — calling for a Central European nuclear-weapon-free zone, which would block NATO's eastward move — and Central European states led by Croatia. China, the Russian Federation and some Eastern European states also warned against the deployment of an American national missile defence system which, Russia said, would conflict with the Anti-Ballistic Missile Treaty and threaten the entire nuclear disarmament effort. China objected in particular to plans for the establishment of a theatre missile defense system involving Taiwan; it sought a recommendation from the Committee that the 2000 Conference should call on parties to refrain from engaging in the research and development of missile defence systems, which would upset global and regional strategic stability. The issue of the Middle East was as prominent as ever, with the one variation that the US appeared more flexible on the matter while Egypt was

if anything more determined to have the Committee call on Israel to accede to the NPT without further delay.

The discussions on nuclear disarmament saw a repetition of the NAM's demand for a phased programme of elimination of nuclear weapons and the establishment of a committee in the Conference on Disarmament (CD) to negotiate this. There was little or no change in the attitudes of the nuclear-weapon states to these proposals, but five NATO countries raised the idea of a working group of the CD to exchange information on nuclear disarmament — a proposal on which France said it would be willing to join in a consensus, as did South Africa. The New Agenda Coalition (Brazil, Egypt, Ireland, Mexico, New Zealand, South Africa and Sweden), joined by a number of NAM states and Switzerland, sided with the NAM in several strong statements delivered by Brazil that called for progress towards nuclear disarmament, in the CD and outside it. Japan warned that the future credibility of the NPT was tied to progress in nuclear disarmament; it was among several delegations that drew attention to the importance of interim measures, such as de-alerting and de-targeting.

Other issues which figured prominently in the proceedings included the nuclear tests of May 1998 by India and Pakistan, of which the majority of delegations felt the time for 'condemnation' had passed, while a number of states agreed it should be made clear that demonstrating a nuclear-weapons capability must not bring any reward or imply the status of a nuclear-weapon state; the apparent halt in the ratification process of START II and the need to proceed as soon as possible to START III; the lack of progress towards the conclusion of a ban on the production of fissionable material; the need to achieve universality, which was considered in connection both with Israel and with India and Pakistan; peaceful uses of nuclear energy, in which interest seemed to be increasing; nuclear export controls, which continued to be seen by some developing nations as obstacles to the access to nuclear energy for peaceful uses, and thus as running counter to Article IV of the NPT; safeguards and the measures to strengthen them through the conclusion of the Additional Protocol, as well as their potential role in verifying compliance with various international arrangements; and the topics of nuclear safety and trafficking in nuclear materials. An issue that emerged during the discussions on nuclear disarmament was the need, felt by several states in connection with reports about increased reliance on nuclear weapons by the Russian Federation, to reduce tactical nuclear weapons. There was relatively little discussion on the call from, in particular, members of the NAM for the conclusion of a binding legal instrument on negative security assurances, although South Africa had tabled a draft protocol to the NPT on this issue (NPT/CONF.2000/PC.III/9). China once again raised the need for nuclear-weapon states to commit themselves to the non-first-use of nuclear weapons. This too incited little discussion.

In the general debate, which took the first day of the session and part of the evening, 37 delegations made statements. The second day was taken up by discussions on procedural matters. Assiduous

preparation and persistent consultation by the Chairman and the Secretariat, resulted in agreement being reached almost right away on a number of items, while those that could not be settled immediately were dealt with in the course of the session. The procedural matters on which agreement was reached early included:

- the confirmation that the 2000 Review Conference will be held in New York from 24 April until 19 May 2000;
- the designation of Ambassador Jacob Selebi of South Africa as President of the Conference;
- the nomination of Mrs. Hannelore Hoppe as Secretary-General of the Conference;
- an amendment of Rule 34 of the Rules of Procedure for the Conference to permit the establishment of 'subsidiary bodies so as to provide for a focused consideration of specific issues relevant to the Treaty';

as well as the nomination of the Chairmen of the three Main Committees (representatives of, respectively, the NAM — Colombia; Eastern Europe — Poland; and the Western Group — Finland), of the Drafting Committee (Eastern Europe) and of the Credentials Committee (NAM).

In connection with the proposed agenda for the 2000 Conference, Canada, supported by several delegations, expressed doubt about the viability of the current system of clustering three groups of issues for allocation to three Main Committees, opting instead for an article-by-article review. It was eventually agreed that this matter could be taken up by the Conference itself.

During the discussion on the Draft Rules of Procedure of the 2000 Review Conference, Austria proposed rewording Rule 44 so as to permit participation of the CTBTO Preparatory Commission. This was done at a later stage by inserting the name of the organisation in Rule 44.3. The title of this Rule was changed to read 'Specialized Agencies and International and Regional Intergovernmental Organizations'. With these changes the Committee was able to adopt the full draft of the Rules of Procedure, which the Committee would recommend to the Conference for adoption.

While there was agreement on an amendment of Rule 34 so that it would in principle permit the establishment of subsidiary bodies (see above), there was much debate over the question whether in fact the Committee should make recommendations to the Conference for the establishment of such bodies, and, if so, which ones. The topic arose during discussions on the subjects for which it had been proposed such bodies should be created, i.e., nuclear disarmament (Main Committee I) and the Resolution on the Middle East (Main Committee II). These proposals were supported by members of the NAM and opposed by most Western states and the Russian Federation. In the end it was decided to include in the Proposed Allocation of Items to the Main Committees of the Conference, which would form an annex to the Committee's report, a fourth paragraph to the preamble, which reads:

The Preparatory Committee also noted that subsidiary bodies could be established within the Main Committees and that the establishment of such

bodies would be considered and agreed upon at the Review Conference.

Some major procedural issues, i.e., the background documentation for the 2000 Review Conference; the allocation of items to the Main Committees; and the draft Provisional Agenda of the Conference, which could be decided upon only once the item allocation was settled, were left for decision later on during the session.

During the first week of the session much attention was paid to the nature and the form of any document or documents to be produced. This was subject to a range of views, with the majority of delegations speaking on the issue expressing themselves in favour of two distinct documents, one reporting on the review of the implementation of the Treaty and the other looking forward to further action. There were also proposals for additional documents, on the strengthening of the review process and on other specific issues, including the draft protocol on negative security assurances proposed by South Africa. France was initially alone among Western states to opt for a single document; it was supported by Egypt and Iran, among other NAM members. Supposedly, at least some supporters of a single 'take-it-or-leave-it' document thought that this would be more effective in obtaining consensus. Other advocates of a document that would both be forward- and backward-looking were said to hope that having the two elements in a single document would make it harder for the 2000 Review Conference to adopt new objectives or a programme of action, and would thus reduce the impact of the Strengthened Review Process. It was noted, however, that it was not essential for the Preparatory Committee to make specific recommendations on this subject, which the Conference itself could decide upon.

The remaining time of the first week of the session was taken up with discussions on substance, in which all major aspects of the Treaty received attention. Observers noted that in this phase of the proceedings, besides the nuclear-weapon states, who normally play an active part, and the states that are customarily most vocal, notably Australia, Canada, Egypt, Germany, Indonesia, Iran, Ireland, Italy, Japan, Malaysia, Mexico, New Zealand, Nigeria and South Africa, a more active part was played also by some countries that have not always been prominent in these proceedings, such as Algeria (mostly speaking for the Arab League), Belarus, Belgium, Brazil (especially active on behalf of the New Agenda Coalition), Croatia (speaking in the main for a group of Central European states), Iraq, Myanmar, the Netherlands, the Republic of Korea, and Turkey.

At the end of the first week, the Chairman distributed two working papers. The first contained draft recommendations for the 'products' of the 2000 Conference, which were seen there as a forward-looking document specifying objectives, and a backward-looking review that would assess past performance. It further contained draft recommendations on the manner in which the 2000 Review Conference might approach its various tasks. On the day of issue and early in the second week of the session this paper was discussed at some length, without receiving general agreement. A number of states

strongly advocated the concept of a single product i.e., one paper, which should in its entirety be the result of consensus. As to the question of the status of this Chairman's working paper: as part of the Committee's report, or as a separate product, it was suggested to decide this in the light of any other products the Committee might reach agreement on, at the end of the session.

The Chairman's second working paper dealt with substance and consisted of 31 paragraphs containing elements of draft recommendations to the Review Conference. The paper was seen as having been drafted so as to get consensus on the major substantive items at issue during the session: universality, non-proliferation, nuclear disarmament, nuclear-weapon-free zones, security assurances, safeguards, the Resolution on the Middle East, and the peaceful uses of nuclear energy, while avoiding the language of lowest-common-denominator proposals. To questions from the floor about the intended status of the paper, the Chairman responded that this would depend on the level of substantive agreement.

Initially, it looked as if the second paper would become the subject of negotiation, aimed at making it a set of draft recommendations to the 2000 Review Conference. Opinions among and within groups differed as to whether this should be the case and was apt to lead to results. Canada spoke for a number of states when it suggested that the paper might serve as an inventory of ideas identified by the Chair from the discussions during the session, which could be conveyed to the Conference as such. Others felt that an effort should be made to get early agreement on as many paragraphs as possible, and wanted to try and negotiate agreed language for the remainder. At a first reading, the paper was considered paragraph-by-paragraph, in a discussion that served as a renewed presentation of views and saw a detailed re-examination of the principal topics. Delegates submitted a variety of proposals, orally and in writing, for specific changes in the text, including several that had not figured as clearly in earlier discussions. At this stage there did not seem to be an effort to reconcile the ever more divergent views and proposals, or to develop a text that might receive general agreement. At the same time, several non-aligned states said they did not see a merely procedural document as a satisfactory result of the session; if there were no substantive recommendations, the session should be deemed to have failed.

These proceedings were interrupted for a second discussion of the Chairman's working paper on the 'products' of the session, of which, after several further drafts, a revised version had been distributed. Rather than speaking of the product (or products) of the Conference, this mentioned its 'outcome': it repeated the call for an assessment of past performance and an identification of actions for the coming review period, but skirted the question whether this should be attempted in a single document or several. A number of points of disagreement could be settled in the debate — notably, Egypt managed to have the two references in the paper to the 1995 Resolution made more specific — from which a short paper emerged that seemed to be generally acceptable.

Agreement was then also reached on the outstanding procedural matters: the allocation of items to the Main Committees (to which the main obstacle had been the question of subsidiary bodies, notably including one on the issue of the Middle East, solved as described above by a reference in the preamble of that paper), the draft agenda for the Conference, and the background documentation. At the previous session of the Preparatory Committee it had not been possible to take a decision on background documentation, because there had been no agreement on the preparation of a paper specifically covering the implementation of the 1995 resolution on the Middle East. There had been an earlier suggestion that the three Depositary Powers, as cosponsors of the resolution, should be asked to prepare the paper, but in the end it was agreed to ask the UN Secretary-General to prepare, besides six other background papers, one on:

implementation of the resolution on the Middle East adopted by the 1995 Review and Extension Conference of the NPT, reflecting developments since 1995 with a view to realizing fully the objectives of the resolution.

The Chairman had meanwhile submitted a new version of his substantive working paper, in which he had incorporated a number of proposals made during the debate on the first version that seemed to have had substantial support and little opposition, and from which some of the passages to which there had been the strongest opposition had been deleted. This made the paper twice as long as the first version. Most of the last day but one of the session was spent going through the new paper. Again, there was discussion on the nature of the paper, and the way in which delegates should react to it. Some delegates saw it as a basis for negotiation and open to adjustment; others — Canada was vocal in this regard — recognised no general wish to negotiate and suggested that the paper should be handled as a set of ideas for possible discussion by the 2000 Conference, on a par with the material generated by previous Committee sessions, all of which was still open to discussion. It was agreed, however, that the 'chapeau' introducing any paper containing the text would have to carefully identify the nature and purpose of the paragraphs it covered.

The Chair then staged another read-through, in which he stipulated that delegations could voice views and objections, noting paragraphs on which there was no objection and setting the others aside. This exercise showed that there were objections to 31 of the 61 paragraphs of the paper; the remaining 30 were non-controversial. The question remained, however, what should be done with those paragraphs. Given their largely anodyne nature, proposals to submit them as agreed recommendations to the Conference were not acceptable, especially to the NAM countries who had faced the rejection of most, if not all, of the paragraphs to which they attached most importance, such as those pertaining to nuclear disarmament. Suggestions to produce a paper indicating which paragraphs had been objected to and which had found general acceptance were also rejected.

At this point, the idea of a fourth session of the Preparatory Committee (the possibility of which is

foreseen in paragraph 3 of the Decision on Strengthening the Review Process) cropped up briefly, with the alternative contingency of a resumed third session. To general relief, neither turned out to be seriously considered, reputedly because there was a feeling that if the present session could not achieve substantive results, a fourth one, held shortly before the Conference, would be even less likely to do so.

In the end, presumably in the shared awareness that it would be impossible to reach consensus at this preparatory stage on issues on which states inherently held widely divergent views, but that it was desirable to go forward with a clear reflection of those views, a large number of delegations agreed that the best solution would be for the Chair's papers and the written proposals by delegations to be submitted to the Conference as annexes to the Committee's report. For this purpose, after further discussion, the Committee agreed to a proposal by the Chairman for a paragraph in the Committee's report, explaining the nature of the papers submitted. This paragraph reads:

The Preparatory Committee considered in the process of the preparation of the 2000 Review Conference principles, ways and means on the implementation and the Articles of the Treaty and the Decisions and the Resolution on the Middle East adopted in the 1995 Review and Extension Conference, in accordance with paragraph 4 of the Decision on 'Strengthening the Review Process for the Treaty'. The Chairman put forward a working paper on 14 May 1999 (Annex ...) containing elements of draft recommendations to the Review Conference. Following consultations on these proposals and other written proposals made by delegations (Annex ...), the Chairman put forward a revised working paper on 20 March 1999 (Annex ...). Further consultations were held on elements contained in the Chairman's revised paper. In this regard the Preparatory Committee was unable to reach agreement on any substantive recommendations to the 2000 Review Conference.

This permitted the report as a whole to be adopted and the third session of the Preparatory Committee to conclude.

(**Direct Information.** For an analytical report on the proceedings the reader is referred to the **Acronym Institute**, its journal *Disarmament Diplomacy* and its website at <http://www.acronym.org.uk>)

b. Other Non-Proliferation Developments

- As part of the effort to enhance the transparency of the activities of the **Nuclear Suppliers Group**, the second NSG International Seminar on the Role of Export Controls in Nuclear Non-Proliferation was held at UN Headquarters in New York, on 8 and 9 April. Chairman was Dr. Hans Blix, Director General Emeritus of the International Atomic Energy Agency. The Secretariat was headed by the Coordinator of the NSG Transparency Working Group, Mr. K. Nederlof, of the Netherlands Permanent Mission in Vienna. Participants came from 60 states — mostly from Permanent Missions in New York or substantive government departments at the respective capitals —

and the European Commission. 'Special Invitees': were staff members of the UN, the IAEA, CTBTO, MTCR, and the Wassenaar Arrangement; several industry officials, and three NGOs, one of them PPNN.

The Seminar was divided into four sessions: The Development of Export Controls and Their Role in International Nuclear Non-Proliferation; The Practice of Export Controls: Effect on Trade and Peaceful Nuclear Activities; Further Cooperation in the Field of Export Controls; and The Future of Export Controls in International Nuclear Non-Proliferation. Each session was opened with a 'keynote address', followed by statements from two commentators and a question-and-answer session. The seminar concluded with a panel discussion among the four keynote speakers and eight commentators, and a brief summing-up by the Chairman. (**Direct information**)

- **France and the United States** have reported progress in developing high-density research reactor fuel that should make it possible for research reactors now using high-enriched uranium (HEU) to use low-enriched uranium (LEU) fuel instead. The new fuel is expected to be available around the middle of the next decade. German experts are quoted as saying that this is not soon enough to warrant converting the new high-flux FRM-2 reactor under construction at Garching, near Munich, to the use of LEU. The FRM-2 should be started up around 2001-2002. (See also *Newsbrief* no. 45, page 8, on the Netherlands.) (SF, 19/4)

c. Nuclear Disarmament and Arms Limitation

- In March, the **Russian Federation** once again deferred ratification of the START II Treaty. On 22 March, President Yeltsin approved the draft ratification law adopted by the State Duma. At that time it was expected that the debates would begin on 2 April, or possibly a few days later, to give members more time to read the documents. On 24 March, NATO air strikes began against Yugoslavia, over that country's actions in Kosovo. In response, on 26 March, Russia's then Prime Minister Primakov — who had aborted a planned trip to Washington — is understood to have suggested that members of the Duma should put off their vote on ratification. Communist members said that NATO's action invalidated all disarmament measures, and made ratification pointless. Members of the Liberal Democratic Party (LDP), on the other hand, reportedly saw good grounds for ratification but recognised this would be difficult to achieve in the emotional atmosphere generated by the action against Belgrade. A prominent member of the LDP was quoted as saying that US actions showed it was not really interested in Russian ratification.

Even after the start of the NATO action the Russian Defence and Foreign Ministers urged the Duma to ratify START II as soon as possible, despite their opposition to the air strikes, as the Treaty was in Russia's security interests. Many Russian parliamentarians, however, called for the postponement of action on START II and concentrated on the adoption of a resolution condemning NATO action in Yugoslavia, which, among other things, recommended postponement of

action on the Treaty. The resolution was adopted by 366 votes to four, with two abstentions. While telling the Duma in his state of the nation message that the bombing of Serbia was a violation of international law standards and the use of force in Kosovo, as well as in Iraq, was 'dangerous and inadmissible', President Yeltsin said that a joint effort with the US to reduce the nuclear weapons arsenal was a priority goal; he, too, urged the Duma to ratify START II. On 21 April, however, Duma deputy Aleksei Arbatov was quoted as saying that while he hoped that negotiations with the US on strategic weapon issues could be resumed, the NATO attacks had 'ruined' the chances for ratification of START II. Russian reactions to NATO's New Strategic Concepts, which Russia is believed to see as transforming the organization from a defensive to an offensive body with a global mission, operating outside the framework of the UN Security Council, further contributed to the impression that the chances of an early ratification of START II had dwindled.

Throughout the NATO action over Kosovo, various belligerent utterances were heard from Moscow as well as Kiev and Minsk; the heads of state of Belarus and Ukraine mentioned a possible reversal in their non-nuclear approach and according to the *Moscow Times*, President Yeltsin had warned that in the case of a prolonged war in Yugoslavia he would be ready to return Russian nuclear weapons to those two countries. During the G-8 summit meeting at Cologne when the Kosovo action ended, Presidents Clinton and Yeltsin discussed holding further talks on nuclear arms reductions, which they agreed should take place during the summer. In an apparent concession to the US, Russia agreed to discuss changes in the ABM Treaty that may be necessitated by a US National Missile Defense (NMD) system, were it decided to deploy one, and in exchange the US was said to have agreed to a resumption of negotiations on a START III ballistic missile reduction treaty. A joint statement issued on 20 June is reproduced below under IV. **Documentation.** A day later, the speaker of the Russian State Duma, Gennadii Seleznev, announced that in September, after the summer recess, the Duma would consider ratification of START II and Foreign Minister Ivanov added that this was a top priority for him. Meanwhile, US National Security Advisor Sandy Berger and his counterpart Vladimir Putin discussed possible talks on a START III agreement and on the 1972 ABM Treaty. John Holum, former Director of the Arms Control and Disarmament Agency and currently the nominee for the post of Under Secretary of State for Arms Control and International Security, has told the US Senate that once it has been decided what NMD would look like, based on an actual threat, there will be a decision as to what amendments to the Treaty are needed. According to Holum, it is the Administration's intention to complete an agreement on the matter by June 2000. Russia's Presidential spokesman has said that Moscow would strongly oppose any 'negative changes' in the ABM Treaty; Foreign Minister Ivanov is quoted as saying that he still regarded the US NMD system as 'dangerous' and liable to destroy the basis of strategic stability.

Although some Russian-American cooperation projects were suspended in response to the worsening of relations between the two states, US-funded work

under the Cooperative Threat Reduction Program (CTR or 'Nunn—Lugar' program) on dismantling Russian nuclear weapons is said to be continuing. On 17 June, the two governments concluded an agreement extending the CTR by seven years. A press release on the subject is reproduced below under **IV. Documentation.**

(AP, 22/3, 29/3, 20-22/6; IT, 25/3, 21/6, 22/6; **London Evening Standard**, 26/3; **R**, 26/3, 27/3, 21/6; **Kommersant-Daily**, 27/3; **AFP**, 29/3, 21/6, 25/6; **Boston Globe**, 20/4; **NYT**, 17/6; **Bellona**, 18/6; **X**, 20/6; **LAT**, 21/6; **WT**, 21/6; **UPI**, 24/6; **IHT**, 30/6. See also **Newsbrief** 45, pages 2 and 3.)

- **Japan** has promised to contribute funds to a joint US-Russian programme to convert Russia's fast-breeder reactor BN-600 so that it can burn weapons-grade plutonium. Japan's contribution is expected to be \$20-30 million. Japan and Russia have agreed to cooperate in research on the use of nuclear-weapon plutonium in mixed-oxide (MOX) fuel. (**SF**, 12/4; **NF**, 31/5)
- In the **United States**, the Department of Energy (DoE) has signed a contract with a consortium of nuclear firms, for the provision of fuel-fabrication and irradiation services pertaining to MOX fuel, as part of the effort to dispose of the 50 metric tons of weapons-grade plutonium that has been taken from dismantled nuclear warheads. Many details still need to be settled before the programme can be fully implemented. DoE will pay the consortium \$130 million to design a MOX fuel fabrication plant but, reportedly, no Congressional appropriation will be requested until negotiations with Russia result in the latter's undertaking to dispose of its own weapons-grade plutonium. An agreement to this effect was concluded at Presidential level.

Shortly after the contract was signed, however, both houses of the US Congress proposed cutting \$150 million from the \$200 million set aside last year to 'jump-start' Russia's excess plutonium disposition programme. The money would be used for disaster relief in Kosovo. The cut met with strong resistance, especially in the Senate, where the Chairman of the Appropriations Committee, Pete Domenici, who is a strong supporter of the disposition effort, said that reducing the funds now would jeopardise the entire project. A compromise was worked out, however, between the House of Representatives and the Senate, as a result of which the \$150 million was restored to the disposition scheme. Unexpected resistance to the proposal to build a MOX fuel plant in Russia had come from Senate Foreign Affairs Committee Chairman Helms, who could only 'cautiously' accept the MOX option if it met a number of non-proliferation conditions. As a result of his intervention, which according to observers was reminiscent of objections voiced to the MOX-plan by the Nuclear Control Institute (NCI) in Washington, a provision was added to draft legislation regarding disposition of surplus weapons plutonium, according to which no funds may be used for the establishment of a MOX plant in Russia until the Secretary of State has certified that this will further US non-proliferation objectives. Russia's

Foreign Ministry has said it sees no problem meeting Helms' conditions.

Meanwhile, however, there are suggestions from American and Russian officials that, given the slow progress in preparing for the disposition of plutonium, it might be appropriate for now to have the US pay Russia some of the funds set aside for plutonium disposition, for blending down more high-enriched uranium than initially agreed. The resulting low-enriched uranium would be swapped for an equivalent amount of weapons-grade plutonium that would be disposed of in Russia, either in immobilised form or as MOX fuel.

There is opposition in the US to the use of MOX fuel, both as a potential proliferation hazard and on radiation safety grounds (see **Newsbrief** 45, page 2). DoE has come to the conclusion that building and operating a MOX fuel fabrication plant and burning MOX fuel in commercial reactors would have 'no major impacts to the environment', but it does acknowledge that there is a very small possibility of accidents causing more radioactive releases leading to both prompt and latent cancer deaths than if only standard low-enriched fuel were used. Among DoE's findings is the conclusion that the overall risk of a latent cancer death would be less than three in 100,000 over the 16-year period the six reactors selected to burn MOX fuel would be operating. In general the difference in consequences for reactors using MOX fuel is called 'very small'.

Canada's Prime Minister has informed the US President that Canada would consider importing excess weapons plutonium from Russia. Earlier, Canada's Standing Committee on Foreign Affairs and International Trade had rejected the proposal that MOX fuel made with excess weapons-grade plutonium from Russia and the US should be burnt in Canadian reactors. In response to critical reactions in the Canadian Parliament to his announcement, Prime Minister Chrétien has said that he does not endorse the recommendations of the Committee and would consider plutonium imports if they were found to be safe and financially possible, and the country's Foreign Minister has since confirmed that Canada would stand by its plans to test MOX pellets containing weapons grade plutonium from US and Russian warheads in the NRU research reactor at Chalk River.

At an international symposium on MOX fuel cycle technologies, held under IAEA auspices in Vienna in May, insufficient MOX fuel fabrication capacity worldwide was seen as the main cause of a build up in civilian plutonium stockpiles.

Swedish regulators have recommended that the government allow the fabrication of MOX fuel from Swedish reprocessed fuel now in the UK, and permit reprocessing of fuel from the Studsvik R-1 research reactor which is said to contain weapons grade plutonium.

(**NYT**, 23/3, 27/3; **NW**, 25/3, 22/4; **NF**, 5/4, 19/4, 3/5, 31/5, 28/6; **NNN**, 21/4; **SF**, 3/5, 17/5, 14/6)

d. Nuclear Testing

- As of 29 June, the **Comprehensive Test Ban Treaty** (CTBT) has been signed by 152 states and ratified by 37; among the 44 states whose ratification is required for the Treaty to enter into force, pursuant to its article XIV, 18 have so far deposited the relevant instruments — Argentina, Australia, Austria, Brazil, Canada, Finland, France, Germany, Italy, Japan, the Netherlands, Peru, Poland, Slovakia, South Africa, Spain, Sweden, and the United Kingdom. Hungary has announced in the CD that it has ratified the Treaty. (CTBTO PrepCom Web Site, 30/6; Acronym Institute, 30/6)
- The American daily *Washington Times* has reported that according to unnamed sources in the US Department of Defense (DoD), a 'small nuclear-related blast' was detected on 12 or 13 June to have taken place at **China's** Lop Nor testing area in the Northwestern part of the country. While analysts were apparently unable to confirm the presence of a nuclear yield, there was a suggestion that an underground explosion might have leaked. (WT, 18/6)
- In **India**, elections are to be held following the dissolution of Parliament upon the defeat of the government of Prime Minister Atal Behari Vajpayee. The elections have been set for late September and Vajpayee, who is again running as candidate for Prime Minister, has said that it would be 'highly improper' for him, as head of a caretaker government, to commit India to the CTBT by the self-imposed September deadline, without a parliamentary consensus. He has added that he would try and call a meeting of the parties to reach agreement on the matter, but neither he nor leaders of the Congress Party are said to hold out much hope about the possibility of signature before the election and formation of a new government. India's Defence Minister, George Fernandes, has said that only if India's security concerns are met will it sign a CTBT, adding that those concerns must not be addressed in a secret understanding but in total transparency. He, too, has said that India will not be able to sign the CTBT before October at the earliest. (R, 28/4, 5/5; AP, 30/4; NYT, 1/5, 5/5, 9/5, 12/5)
- **Pakistan's** Prime Minister, Nawaz Sharif, has said that his country does not need to carry out any more nuclear tests and is ready to sign the CTBT. It was expected, however, that with India putting off its signature, Pakistan would do so as well. The chief engineer at the Khushab nuclear plant — presumed to have been constructed for the production of weapons-grade plutonium — has resigned in protest over plans of the government to sign the CTBT. (Jasarat [Karachi], 31/3, in BBC, 31/3; PTI news agency [Islamabad] 11/4, in BBC, 11/4)
- **Russia** has said that during the current year it will carry out, 'as a matter of priority', five underground subcritical nuclear tests, at the Novaya Zemlya test site. They are said to be connected in the first place with the decision to upgrade the country's tactical nuclear forces. (Interfax [Moscow], 27/3; Nezaviimaya gazeta, 12/5)
- Also in **Russia**, a scientific institute in Siberia has announced the development of a new, highly accurate system to detect nuclear underground tests, by monitoring fluctuations in the earth's magnetic field from space. (LAT, 22/4)
- Democratic members of the **United States Senate** have said that ratification of the CTBT would make it harder for China to make full use of the nuclear-weapon technology it is alleged to have obtained. This has not deterred the Chairman of the Senate Foreign Relations Committee from once again saying that before taking the Treaty to the floor he wants the Administration to submit to the Senate amendments to the ABM Treaty. Helms has drafted language that would make any future treaty ratifications conditional upon the submission of these amendments, which means that no new treaty can go into force until the Senate has received the amendments. In this connection it is seen as particularly relevant that Russia appears ready to discuss changes in the ABM Treaty. (AP, 2/6, 20/6; WP, 21/6)

e. Nuclear Trade, International Cooperation and Nuclear Export Issues

- For references to nuclear-trade relations between **China** and the **United States**, see below under **j. Nuclear Material Trafficking and Physical Security**, pages 20 to 23.
- **Cuba** and the **Russian Federation** are reported to have set up a joint venture to complete the two VVER-440 power reactors that were being built at Jurugua, Cienfuegos Province, and on which work stopped in the early 1990s. Neither country is said to be capable of funding the project; and financing is being sought outside. The US State Department has once again expressed strong opposition to the project, 'for reasons of safety'. (R, 17/5; Ux Weekly, 17/5, in UINB 99-20; Enerpresse [France], 19/5; NW, 27/5. See also Newsbrief 41, page 4.)
- Reportedly, there were expectations in Washington that during the visit which then Prime Minister Primakov of the **Russian Federation** was to have made in late March, a possible reduction of Russian nuclear assistance to **Iran** could have been discussed, in return for a US waiver of sanctions against two Russian research institutes. Although Atomic Energy Minister Adamov did go to Washington at the scheduled time, the issue was not settled. Apparently, Russia is not prepared to discuss a halt of its cooperation in the construction and expansion of the Bushehr power station.

Prime Minister Stepashin has given the go ahead for talks with Iran on the possible supply of two more reactors for Bushehr, in addition to the second VVER-1000 unit. Iran does not yet seem to have decided of what type the two additional reactors would be: VVER-1000 or the new VVER-640, or even VVER-440s, as suggested by Vice-Minister Reshetnikov.

Plans to supply nuclear components for the Bushehr power station have been discussed in the Parliament of

the Czech Republic. There had been pressure from Washington to cancel the contract, but it seems that the Czech authorities in the end did not raise any objections to the deal.

During a visit to Moscow, Israel's Foreign Minister discussed Russia's nuclear cooperation with Iran. The two states are reported to have set up a working group to discuss issues arising from Russia's nuclear trade with Iran.

(NW, 25/3; R, 12/4, 28/6; NW, 29/4; AP, 8/5, 28/6; NNN, 12/5; CTK [Czech News Agency, Prague], 19/5)

- **Syria and the Russian Federation** have concluded a ten-year agreement for cooperation in the peaceful uses of nuclear energy. As reported, they will cooperate on designing, building and operating nuclear power and research reactors in Syria. The **United States** has imposed sanctions against three Russian companies that cooperate with Syria. They are the Tula machine-building design bureau, the Volsk mechanical plant and the Central Research Institute of Precise Machine Building. The Russian Foreign Ministry has protested sharply against this 'openly hostile move'. (Interfax, 4/4; Izv, 6/4; NZZ, 19/5; IT, 20/5; NNN, 9/6)
- There has been talk about the establishment of a joint **Russian/American** committee on atomic energy, that would operate under the aegis of the intergovernmental commission headed by (then) Russian Prime Minister Primakov and US Vice President Gore. (NW, 22/4)

f. IAEA Developments

- At its meeting in June the IAEA's Board of Governors reviewed the implementation of Agency safeguards over the past year. The Agency's Safeguards Implementation Report for 1998 has concluded that none of its verification activities in 68 states, and in Taiwan, China, gave any indication that declared and safeguarded nuclear material had been diverted to any military purpose or for purposes unknown or that facilities, equipment or non-nuclear material placed under safeguards were being misused. For references to the Agency's activities with regard to the DPRK and to Iraq, see below pages 14 to 17 and 18 to 19, respectively. (IAEA Press Release PR 99/6, 17/6)
- From 12 to 23 April, the first 'Review Meeting of Contracting Parties to the International Convention on Nuclear Safety' was held at the Agency's headquarters in Vienna; President was Lars Högberg of Sweden. The Convention entered into force in October 1996. It provides for regular Review Meetings. So far, 65 states have signed the convention and 50 have ratified it. Forty-five contracting parties participated in the Meeting. The US, which had ratified the Convention on 9 April, could not participate as a full contracting party, but was invited to attend the final plenary sessions. The principal purpose of the Meeting was to review National Reports submitted by contracting parties on the steps and measures taken to implement Convention obligations. It was noted that of the contracting parties, three had not submitted a National Report; one state that had done so did not attend. The

Meeting concluded that the review process had been of great value for the national safety programmes of the contracting parties, and had demonstrated the strong commitment of all Contracting Parties to the safety objections of the Convention.

The Meeting concluded that despite the need for certain improvements, efforts at enhancing nuclear safety are moving in the right direction. It also agreed that the review process had proved of great value to national nuclear safety programmes. Among specific issues mentioned in the President's Summary Report, with which the next series of National Reports, due in three years, is expected to deal, was the in-depth safety assessment of older reactors. In connection with plants designed to earlier standards, the Summary Report mentioned the need to ensure 'that all reasonable practical improvements are made as a matter of urgency to upgrade the safety of the station', and that, if such upgrading cannot be achieved, 'plans should be implemented to shut down the installations as soon as practically possible'. It is noted, however, that this 'may take into account the whole energy context and possible alternatives as well as the social, environmental and economic impact'. While the Summary Report does not mention specific states in this context, these injunctions are seen as addressed especially to the Chernobyl-type RBMK reactors in Lithuania, the Russian Federation and Ukraine, but they would also apply to the old VVER-type units in Bulgaria, the Slovak Republic and Russia.

(IAEA Press Release 99/3, 12/4; NW, 15/4; IAEA Document CNS-RM-99/021; NNN, 26/4; NW, 29/4, 17/6)

- The IAEA has produced a model work plan for the application of decontamination technologies that could substantively expedite resettlement of dwellings and use of agricultural areas in Belarus that were contaminated by fall-out from the Chernobyl event of 1986. As reported, the project includes the performance of radiological surveys of houses that have high dose rates and apply a number of decontamination techniques that are easier and cheaper to implement than some used currently. It will then compare the relative effectiveness of the methods. The project encompasses agricultural production and forestry and the upgrading of fire-detection and prevention techniques. In a related project, the Agency is helping to carry economical decontamination and rehabilitation practices to settlements in the region around Chernobyl, in Ukraine. (NW, 22/4)

g. Peaceful Nuclear Developments

- Reactor unit-5 of the Kosloduy nuclear power station in **Bulgaria**, one of the two newest VVER-1000 units there, has reported that it has completed five years without unplanned shut-downs. The last involuntary shut-down, in 1994, is said to have been due to an external factor, viz. grid frequency change. Reportedly, the station, which contains four first-generation VVERs that are widely criticised as unsafe, thus also has one of the best-operated reactor units in the world. The Bulgarian authorities are still said to hope that extensive

safety upgrades may further extend the operating life of the four old VVER-440/230 reactor units, but a delegation from the European Union has urged the earliest possible shut-down of these units, as they have design deficiencies that cannot be improved. Bulgaria had earlier pledged to shut them down in 1997 and 1998. (NNN, 13/4; NW, 6/5, 27/5; R, 21/5; Ux Weekly, 24/5)

- **China** has announced a substantial slow-down in its plans for the expansion of its nuclear power programme. The government in Beijing had said earlier that there would be no new reactor building for three years but it appears possible that exceptions will be made to this rule. Reportedly, the government is concerned about the high cost of nuclear power investment and it has been announced that no approval will be given for new nuclear plants unless their power can be sold profitably for 20 to 30 per cent less than the current price of electricity from the Daya Bay nuclear station. (NW, 15/4, 27/5)
- After several deferrals of the decision whether to complete or to scrap the VVER-1000 reactors under construction at Temelin, the cabinet of the **Czech Republic** on 12 May decided, by a vote of 11 to 8, that the plant will be completed, and the first of the two 912-MW reactors should go on-line in mid-2001. Reportedly, the two sides of the issue were presented by the Minister for Industry and Trade (in favour) and the Environment Minister (against) and both Czech President Vaclav Havel and the Austrian Prime Minister made last-minute appeals for a referendum. Austrian sources claim that support for the decision within the Czech Republic is diminishing.

The Austrian government is still exerting heavy pressure on its neighbour to reverse the decision to complete the station, which is 30 miles (50 km) from the Austrian border. Members of the government in Vienna are using the argument that the possession of 'unsafe' nuclear facilities disqualifies the Czech Republic from joining the European Union. Germany's Environment Minister Trittin is said to have offered Prague incentives to help bring about a negative decision. There reportedly is still a possibility that if construction costs increase again or start-up is delayed, the question of completion will be reconsidered. Anti-nuclear groups, particularly in Austria, have said they will continue campaigning against completion. The Austrian press reports 'massive protests' among regional politicians and repeats threats ascribed to government officials, that everything possible will now be done to keep the Czech Republic from joining the European Union. The government in Prague is reported to be concerned about rumours of imminent attacks on the installation by 'Austrian extremists'.

(NW, 25/3, 20/5; DP, 31/3, 8/4, 30/4, 14/5, 15/5, 17/5, 18/5, 20/5, 25/5, 11/6; SN, 2/4, 15/5; StV, 7/4, 6/5, 14/5, 17/5, 18/5; K, 8/4, 12/5, 15/5, 16/5; NNN, 11-13/5; FAZ, 14/5, 12/6; NZZ, 14/5; SDZ, 14/5; Wiener Zeitung, 19/5; Austria Today, 20-27/5; StV, 11/6)

- In **Germany**, whose Social Democrat/Green government alliance remains committed to the phase-out of nuclear power, notwithstanding the

political problems this has so far brought it (see **Newsbrief** no. 45, page 12), reactor operators are seen seeking help from local socialist politicians to avoid the early shut-down of their facilities. Parliament has adopted legislation authorising a retroactive tax levy on funds contributed by electricity users to cover the eventual decommissioning of power stations. Utility operators claim that the new tax — introduced by former Finance Minister Lafontaine and rushed through the Bundesrat (the upper chamber of the Parliament) before 19 March, the last day that the government coalition still had the absolute majority in that body which it lost in recent elections in Hesse — will cost them the equivalent of \$14 billion. They have said they will fight the tax in court. The government argues that the utilities have set aside too much money.

Leaders of both coalition parties have denied media reports that the Federal Chancellor would not insist on an early shut-down; both have stated that the phase-out would be 'irreversible'. Earlier, a spokesperson for Chancellor Schröder had said he still sought a near-term pull-out, but no time frame was mentioned. On 22 June, the 'Consensus Talks' between the government and utilities were resumed with, it is said, little or no progress. The Chancellor had been understood to hope for agreement by late June. Economics Minister Werner Müller had claimed that utilities would not be forced to close plants 'before economic conditions allow', but he also warned that unless the utilities accepted by end June government proposals for specified reactor lifetimes, the government would resolve the issue in a decree. The Chancellor, Economics Minister Müller and Environment Minister Jürgen Trittin are said to have agreed on setting a maximum operating life of thirty years which, given that the newest reactor is about ten years old, would mean a phase-out of all 19 reactors by 2020. The utilities appear to focus on a lifetime limit of at least 35 years; the chance of a compromise is considered low.

In Hesse, where a Socialist/Green coalition was defeated, the new government has said it will repeal decisions that stood in the way of the operation of the two PWR units at Biblis, that were closed down for several years. As reported, the utility that owns the station might still decide to shut it down — one of the reactors started operating in 1975 and the other in 1977 — unless the 'Consensus Talks' give it the assurance that it can continue to operate Biblis until 2015.

The fact that Environment Minister Trittin has issued a license for a shipment of spent reactor fuel from Germany to the US is taken as an omen for future shipments of irradiated nuclear fuel to France and the UK. Although the coalition government has reached an understanding with utilities that shipments of spent fuel elements to reprocessors in those states would be permissible as long as they lack facilities for on-site storage, and the government has said that it will honour its undertaking to take back high-level radioactive waste from France, a general ban on the shipment of spent fuel is still in force. There are indications that further shipments will not be authorised until 2000. Several reactors are said to be running out of room for more spent fuel and are agitating for early permission

to move fuel either to interim storage within the country or to the UK and France.

It is reported that when the new German government spoke of cancelling the reprocessing agreements German utilities had in France and the UK, the governments of those countries made clear that they would take counter-measures in critical political and economic areas. The government in Bonn thereupon decided that reprocessing of German spent fuel would have to continue for the present.

The decision of the Environment Minister, to halt German support for the development of the 'inherently safe' French-German 'European Pressurised Water Reactor project' has caused concern among scientists in both countries.

(NNN, 25/3, 19/5; NW, 25/3, 8/4, 15/4, 29/4, 6/5, 20/5, 10/6, 24/6; DW, 3/4, 26/5, 28/5; FAZ, 3/4, 8/4, 12/4, 17/4, 22/4, 24/4, 4/5, 29/5; NF, 5/4, 31/5; SDZ, 9/4, 13/4, 22/4, 5/5, 19/5, 28/5, 29/5; **Enerpresse**, 13/4; NEI, May; SF, 10/5; Ux Weekly, 24/5)

- In **Japan**, questions have been raised as to whether the projected reprocessing plant at Rokkasho-mura should be completed as scheduled or be delayed while more spent fuel is kept in interim storage. Reportedly, some utility operators would prefer a delay of 10 to 15 years. At the same time, Japanese utilities are considering approaching Russia for possible storage of Japanese spent fuel there. (SF, 19/4)
- Although the government of the **Slovak Republic** had earlier approved an extension of the operating life of the oldest VVER-440/230 reactors, Bohunice-1 and -2, without setting a new date for decommissioning, it is now reported to have decided upon a shut-down of unit 1 between 2010 and 2102, to facilitate its entry into the European Union. There has been no published information on plans for an early shut-down of unit 2. (CTK [Czech News Agency, Bratislava], 21/4, in **BBC**, 21/4; NNN, 22/4; K, 27/4; StV, 27/4; FAZ, 12/6; ff, 28/6)
- **Slovenia** has had problems getting fresh fuel assemblies from Germany if they are sent through Austria. Reportedly, in 1998, Austria prevented a train transporting fresh fuel to cross its territory, citing new procedures for six-month notification. The fuel was subsequently sent by air, at higher cost. Recently, Austrian authorities refused clearance of another nuclear fuel shipment from Germany to go by air over Austrian territory, reportedly after a permit that had been issued was later withdrawn. The matter was solved by having the fuel sent by air from New York. A second shipment was routed through Switzerland and Italy. (NW, 1/4)
- A poll conducted for the Swedish Power Association has shown that there is little public support in **Sweden** for a phase-out of nuclear power, but about one fifth of those questioned said they favoured closing the Barsebäck power station, which the government has selected as the first nuclear power station to be shut down. The Conservative Party has brought a motion in

Parliament to repeal the law that allowed the government to order early decommissioning of Barsebäck, claiming that the shut-down would hurt Sweden's economy. On 16 June, however, the Swedish Supreme Administrative Court ruled that the government's decision to have the plant shut down is valid, which means that the first unit should go off-line by late November. The operator is said to be considering appealing to the European Commission. (R, 30/3; NNN, 21/4, 16/6; NW, 27/5, 17/6, 24/6; ff, 21/6)

- Fuel shortages are said to have obliged **Ukraine** to reduce the output of its VVER-1000 power reactors. As reported, except Zaporoshe-6, no Ukrainian VVER-1000 unit has sufficient fresh fuel in stock, and non-payments for delivered electricity has deprived utilities of the funds to buy new supplies. At Chernobyl, the RBMK-1000 units 1 and 2, which are waiting to be decommissioned, have a stock of partially irradiated fuel, which might be used in unit 3. This appears to be an argument for the country's authorities to keep Chernobyl-3 in operation as long as possible; a major overhaul of the reactor is planned for the summer. The French Institute for Nuclear Protection and Security is reported to have said that despite improvements Chernobyl-3 still has serious safety shortcomings and should be closed down as soon as possible.

At its summit meeting in Cologne, in June, the G-8 reaffirmed support for the completion of the Khmel'nitski-2 and Rovno-4 VVER-1000 power reactors, but the European Bank for Reconstruction and Development (EBRD) has not yet made the necessary funds available. Apparently under pressure of its Parliament, the German government has said that it will not help to provide funds for the completion of the two reactors; it is understood to have called for a change in the communiqué of the Group, deleting references to the K-2/R-4 reactors. Germany's Federal Chancellor has appealed to Ukraine to go in for gas-fired generators instead, but Kiev, which has made the shut-down of Chernobyl-3 dependent on the completion of the two reactors, is not thought likely to follow this advice.

At the EBRD's general meeting much attention was paid to the Shelter Implementation Plan (SIP) to stabilise the sarcophagus over Chernobyl-4. As reported, SIP is seen as an eight-to-nine year project to make the structure of the sarcophagus safe in the medium-term until a long-term plan can be worked out. About half of the \$760 million said to be needed has so far been committed. Work has begun on stabilising the roof support beams, thought to be the most endangered parts of the structure. The government in Kiev has problems in finding its share of the costs of SIP; its resources decrease steadily, while the disbursements it must make to victims of the catastrophe, to service the debts it has incurred for emergency payments, and to make good losses caused by the event, are growing inexorably.

(UNIAN [Ukrainian news agency, Kiev] 6/4, in **BBC**, 6/4; NW, 8/4, 22/4, 27/5, 17/6; NNN, 20/4, 4/6; NYT, 21/4; SDZ, 9/6; DW, 14/6)

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

- According to American officials, in the current year **China** will flight-test a new intermediate-range ballistic missile. Code-named *Dong Feng-31* (DF-31), this would be the country's first truck-mounted, solid-fuelled missile, capable of delivering a nuclear warhead with a 400-kiloton yield over a distance of 5,000 miles (8,000 km). China is also expected to test-fire this year a submarine-launched ballistic missile, *Julang* (JL-II) with about the same range. (LAT, 15/5; FT, 3/6)
- On 29 April, the Security Council of the **Russian Federation** met in secret session under the chairmanship of President Yeltsin to discuss the state of the country's nuclear weapons and prospects for their development. Russian media saw the session as prompted, at least in part, by NATO's military action in Yugoslavia, changes adopted recently to the NATO doctrine which allow wider flexibility to intervene in conflicts, and the potential breach by the US of the ABM treaty. President Yeltsin was quoted as saying that Russia's nuclear forces have been a decisive factor of stability and maintaining their combat readiness at a high level is a top priority of the Russian state. Russian media speculate that the country is embarking on a large-scale programme to modernise its nuclear weapons, along with changes in its strategic posture, said to include the concept of using low-yield nuclear weapons as potential war-fighting means. There is talk of the development of a new generation of tactical weapons to this end; supposedly, these devices would not be seen as mass-destruction weapons, so that their use would not necessarily trigger all-out nuclear war. This doctrine has long been promoted by Dr. Viktor Mikhailov, former Minister for Atomic Affairs and now deputy head of MINATOM, but in a press release published in a Moscow newspaper, MINATOM, stressing that Mikhailov is not in charge of the nuclear weapon programme and cannot be aware of the recent decisions, has distanced itself from his statements.

Reportedly, President Yeltsin has signed decrees on the maintenance and upgrading of both tactical and strategic nuclear weapons. Senior Russian defence officials have said that there were plans for the deployment of tactical nuclear weapons on Belorussian territory, should a situation unfavourable to Russia develop. There has also been a report that the President discussed with the speaker of the State Duma the possibility of re-targeting nuclear weapons against NATO member states involved in the campaign against Yugoslav forces in Kosovo; Yeltsin's office is said to have denied reports that re-targeting had taken place but the issue has since been mentioned repeatedly in the domestic and foreign press. Earlier, in connection with the announcement by the Defence Minister of the Russian Federation that a vessel of the Black Sea fleet would sail into the Mediterranean 'to ensure Russia's security' in the face of NATO actions against Yugoslavia, the chairman of Russia's general staff had said that the option of launching a preemptive nuclear strike against a potential enemy could no longer be ruled out. Apparently, however, a decision to this effect was not taken at the Security Council's session.

On 3 June, a silo-based *Topol-M* ballistic missile made a successful test-flight. The solid-fuelled *Topol-M*, which is said to have a range of 7,000 miles (11,000 km), flew 5,600 miles (9,000 km). It was the seventh launch of the missile in three years. The announcement from Moscow included the statement that its electronics enable the missile to evade 'all existing and prospective anti-missile systems'.

Navy Commander Admiral V. Kuroyedov has said that Russia's nuclear navy units at Kamchatka Peninsula, in the country's Far East, will be kept on active duty until 2005, and that all ships stationed there are kept in combat readiness.

(*Segodnya*, 30/3, 6/5, 25/5; *Boston Globe*, 1/4; FT, 10/4, 30/4; Letter from **Center for Policy Studies in Russia** [PIR], 20/4; IT, 23/4, 29/4; *Izv*, 28/4; AP, 29/4, 5/5; R, 30/4, 3/6; *Komsomolskaya Pravda*, 30/4; SDZ, 30/4; *Moscow Times*, 27/5, *Interfax*, 3/6)

- In the **United States**, plans for the development of a defence system against ballistic missiles have come closer to realisation. On 20 May, the US House of Representatives, by a vote of 345 to 71, adopted a bill committing the government to deploy a missile defence system as soon as this is found to be technologically feasible. The bill does not authorise the construction of the system nor does it appropriate funds, but both Republican politicians and many Democrats, as well as the American military, are said to count on the eventual deployment of a National Missile Defense system (NMD), and on the development of an effective Theater High-Altitude Area Defense (THAAD) anti-missile missile that would be deployed primarily in specific theatres, notably East Asia.

In May, the US Senate — which on 17 March had passed its own National Missile Defense Act of 1999 — held hearings on the issue. In connection with Russian objections that an NMD system would clash with the 1972 Anti-Ballistic Missile (ABM) Treaty, a number of military experts, diplomats and national security specialists suggested that this Treaty was a 'Cold War relic' that should not be held hostage to defence against missiles from 'rogue countries'. The Russian Foreign Ministry has since excoriated Congressional action on NMD as 'a challenge to strategic stability and international security'. It has added that the action stimulates the deployment of more sophisticated missiles and aggravates a new arms race, and poses a threat to the whole disarmament process. Meanwhile, however, after the G-8 summit meeting at Cologne, on 19–20 June, Washington sources reported that Russia would be willing to talk about changes in the ABM Treaty, apparently in return for US willingness to begin negotiating START III even before Russia has ratified START II.

Reacting to comments from the Administration that a decision on NMD deployment will not be made before June 2000, and that Russia and the US would talk about modifications to the ABM Treaty 'that may be occasioned by a national missile defense system, if we were to deploy one', Republican Senate sources have underlined that deployment is required and that the

ABM Treaty must either be changed or abrogated. 'The question of whether to deploy NMD is resolved...'

As pointed out by some Democrats in Congress and by many analysts, the technological and scientific feasibility of the system remains unproven. The General Accounting Office of the US Congress has noted that in the only tests so far considered to have been successful, steps had been taken to 'enlarge the target's signature', making it artificially easier to score a hit. On 28 March, a test of a THAAD interceptor missile failed for the sixth time in succession, when the missile missed the Scud-type target vehicle. At the time it was announced that the prime contractor for the project, Lockheed Martin Corp., would have to pay \$15 million in penalties and if the system failed twice more before 30 June, another \$20 million. Interestingly, officials of both the company and DoD said they were 'encouraged' by the March test, stressing that it was 'a very close miss'. Another development test of a THAAD interceptor missile was scheduled for 25 May but the launch was aborted when the target rocket went out of control. Finally, on 10 June, it was announced from the White Sands Missile Range in New Mexico that a THAAD rocket had successfully intercepted a target missile at high altitude, and destroyed it. This first success in a total of seven tries prompted the program manager to call the date 'a great day for America, the army and the missile defense community'. Critics pointed out that what works well in a test may fail in the field, however, and noted that the intercept had been made under carefully controlled conditions.

Lockheed Martin has also been chosen to develop and test a High Power Discrimination Radar for the US Navy's Ballistic Missile Defense Program.

An NMD test was to be held in June, then rescheduled for 12 August and, according to DoD will now 'probably' not be held until 'at least ... mid-to-late September'. It will be the first in a series of nineteen. A decision by the White House whether to deploy the system is due in 2000; if this is positive, DoD is said to hope that the first units of the system can be deployed within five years. It is noted, however, that by the time the decision will be taken, only 4 or 5 of the 19 tests will have been made. The target missile to be used in the first test will be equipped with a C-band radar beacon so that the 'exoatmospheric kill vehicle' (EKV) will find it more easily. The Director of the Carnegie Non-Proliferation Project has pointed out that of 16 high-altitude NMD intercept attempts since 1982, only 2 have hit and no test has been successful since 1992. Reportedly, Pentagon officials are concerned that the causes for the failures of the other attempts — which a panel of the Defense Department had earlier found to include poor design and fabrication, lax management and lack of governmental oversight — are too diverse to permit a single one to be identified. The Director for Defense Research and Engineering of the Pentagon has said that there is no question that a workable national missile defense system can and should be built, but he has cited 2008–2010 as the earliest period for deployment.

Political comments on the NMD plans range from strong backing, mainly by conservatives, to sharp

criticism from arms control supporters who fear that NMD, which runs counter to the 1972 ABM Treaty in its current form, will put further arms limitation agreements at risk. There is also concern at Chinese reactions to US proposals for the introduction of theatre missile defence into East Asia, and specifically Taiwan. The prominent defence specialist Richard Garwin, Chairman of the Arms Control Advisory Committee for the (former) Arms Control and Disarmament Agency, reflected the views of many American defence experts in warning that the proposed NMD system would have 'essentially zero capability' against an intercontinental ballistic missile (ICBM) from North Korea, as well as against the 'much more realistic and important threat from North Korea, Iran or Iraq': short-range cruise or ballistic missiles fired from merchant ships near US shores, a nuclear weapon detonated in a harbour or biological warfare agent disseminated in the US.

Much attention is paid in the US media to a string of failures of other recent rocket launches, which are said to have resulted in losses totalling \$3.5 billion. In the latest such incident, on 30 April, a large launch vehicle, the \$433-million Titan 4B rocket, which was used to put a military communications satellite in orbit, malfunctioned and was lost. One purpose of the satellite is understood to have been the detection and location of missile launches and nuclear detonations. It was the third consecutive failure of a Titan-4 launch. Both the launch vehicle and the satellite were manufactured by Lockheed Martin.

The Director of the US Navy's Office of Theater Air Warfare has said that the Navy's Theater Missile Defense Program, which was to have cost \$913 million through 2005, will cost \$420 million more. The Director of the Center for Strategic and Budgetary Assessments in Washington has said that, 'a fifty per cent cost overrun is quite high, even by Pentagon standards'.

Canada and the US are discussing a possible role for Canada to play in a North American NMD system.

China has repeated its objections to the establishment of an American NMD system and to the introduction of a THAAD system in its area, which it says will have a negative effect on the nuclear disarmament process and on global strategic ability. It has also expressed great concern at reports that the American government may sell an early-warning radar system to Taipei. Plans for that sale were approved in Washington at the highest level, but there are reports that the White House is hesitating to involve Taiwan for the time being.

(NYT, 27/3, 31/3, 1/4, 8/4, 9/4, 16/4, 26/4, 4/5, 12/5, 14/5, 22/5, 24/5, 26/5, 11/6; IHT, 31/3, 11/6; AFP, 8/4; AP, 8/4, 27/5, 8/6, 10/6, 20/6; R, 9/4, 15/4, 27/4, 3/5, 25-27/5, 8/6, 21/6; Iraqi Radio, 14/4; Radio Monte Carlo, 14/4; Inside Missile Defense, 5/5; Federal Document Clearing House, 21/5; YOS, 11/6; Detroit News, 15/6; Inside the Pentagon, 17/6; LAT, 21/6; WT, 21/6, 22/6)

- In the United States, the Senate Armed Services Committee has endorsed a proposal to reduce the number of Trident nuclear-missile submarines from 18

to 14. Initially, the reduction was to have waited for Russian ratification of START II but there are indications that the US Navy would like to refit the four boats for other purposes even before the Treaty enters into force. (AP, 12/5)

- On 23 and 24 April, the North Atlantic Council, meeting in Washington at summit level on the occasion of the fiftieth anniversary of the **North Atlantic Treaty Organization** (NATO), adopted a new Strategic Concept. Relevant extracts of the Strategic Concept and of the Communiqué issued upon the conclusion of the event are included under IV. **Documentation**.

i. Proliferation-Related Developments

- When in March the **Democratic People's Republic of Korea** (DPRK) agreed to give US officials access to the Kumch'ang-ri site to ascertain whether this is used for nuclear purposes, some observers saw this as an encouraging sign; others were sceptical. On the positive side, the announcement was seen as a reason to hope for more clarity about the North's nuclear activities and for an eventual relaxation of tensions on the Korean Peninsula. Sceptics in the US and around the world expressed doubt that the agreement would do much to resolve the uncertainty about the DPRK's intentions. There were suggestions that Kum'chang-ri was one among several underground sites where clandestine nuclear activities might be going on; that once access was obtained, any sensitive material and equipment would have been removed; that the agreement was so vague that the DPRK could put restrictions on the access that would make it virtually meaningless; that Kum'chang-ri was a decoy site to divert attention from areas where the main nuclear work was going on; that the US' willingness to pay for the access with humanitarian aid risked creating a precedent for Pyongyang to claim a reward each time it is called upon to clear up doubts about its intentions. This point was stressed by Republican members of the US Congress, who said that North Korea had become the largest recipient of US aid in East Asia, with very little reduction in the threat it poses to the United States.

There were discussions in Pyongyang in April on 'details and method of the on-site visit to the facility in Kum'chang-ri'; further details were settled in the margins of the four-power peace talks in late April (see below), and during a visit in mid-May by US Special Envoy Charles Kartman. A 15-member team of US experts arrived on 20 May. They completed their work in four days, reportedly 'because of the DPRK's cooperation'. The US Department of State said that '[t]he team found an unfinished site, the underground portion of which was an extensive, empty tunnel complex'; a month later it reported that analysis showed that the site was unsuitable for the construction of a plutonium-production reactor and could not accommodate a reprocessing plant without substantial modification. Responding to speculation that equipment might have been moved out, the Departmental spokesman said that the tunnel was at too early a stage of construction for any relevant equipment to have been present. A return visit is planned for May 2000 and further visits may be made. Experts in Seoul

were not surprised that the site was empty of equipment, but said that the search was a useful precedent that might deter attempts at clandestine nuclear activities elsewhere. On 23 June, a DPRK/US follow-up meeting started in Beijing at which, reportedly, the two sides not only covered the implementation of the Agreed Framework, but also such issues as the incident in the Yellow Sea and missile tests. Administration critics in the US Congress promptly proclaimed that the event showed the Agreed Framework was a failure; the Administration said it demonstrated the effectiveness of that instrument.

There has been a report from Vienna that, in 1994, when IAEA officials first visited the reactor at Yongbyon which was then close to completion, they noticed that 'critical parts' said to be needed to control the atomic reaction in the core [presumably control rods — Ed.] were unaccounted for. No clarification seems to have been forthcoming at any of the twelve meetings the IAEA has since had with the reactor's staff, although apparently, the Agency was first told that the parts had never been made and subsequently that the matter was being looked into. Staff members of the US Congress have complained they had not been briefed on the matter; one expressed concern that the equipment might be used elsewhere. An American official is quoted as saying that he knew all along, but was not much concerned because the DPRK could in any case replicate the equipment. The US State Department has said that in 1998 the matter was in fact discussed with Congress.

In its annual Safeguards Implementation Report the IAEA Secretariat has said that the Agency is still 'unable to verify the correctness and completeness of the initial declaration of nuclear material made by the [DPRK] and is therefore unable to conclude that there has been no diversion of nuclear material ... The safeguards agreement between the DPRK and the Agency remains binding and in force, and the Agency is continuing to implement safeguards measures in the DPRK. These measures include monitoring the "freeze" on the DPRK's graphite moderated reactors and related facilities ...' The Secretariat also reported that there had been no progress in technical discussions on the preservation by the DPRK of information the Agency deems necessary for its verification.

Several Japanese daily newspapers have published allegations by a defector from the DPRK, that Pyongyang has developed nuclear missiles. Allegedly, Pyongyang has built five nuclear bombs using plutonium but has also obtained enriched uranium from Pakistan. The DPRK has indignantly denied having any nuclear, biological or chemical weapons.

An incursion into Japanese territorial waters by two small vessels described as 'DPRK spy ships' has caused agitation in Japan, which has lodged a formal protest with Pyongyang. The DPRK has denied that any of its ships was involved. Coming at a time when reports appeared about Pyongyang's plans to launch another long-range missile, the event was seen as likely to have a negative impact on Japan's attitude to the DPRK.

The leaders of the G-8, at their summit meeting on 18–20 June, discussed the issue of DPRK missile development. In a joint declaration issued after the summit, the G-8 reaffirmed the importance of deterring this development and encouraged the states concerned to pursue a dialogue on the matter.

South Korean officials are the source of reports that the DPRK has 'at least' four missile factories and ten missile bases ready for use, with two more being built. According to another report, a DPRK defector has claimed that the country has eight missile-production and storage facilities and seven launching centres. Reportedly, it is capable of producing more than 100 Scud-type missiles annually and has exported 250 (another figure quoted is 490 missiles), to Iran, Iraq and Syria.

On 29 and 30 March, US officials had another round of discussions with the DPRK about its ballistic missile programme. Reportedly, Pyongyang rejected the US demand that it should halt its missile development and said it would only accept limitations on its development programme if an appropriate financial compensation was paid. One South Korean daily has reported that the DPRK annually exports \$1-billion worth of missiles and that it is the world's largest missile-exporting state; other sources put the figure at several times this amount. The DPRK's reported demand to be paid \$3 billion i.e., \$1 billion a year for each of three years was rejected by the US but, as indicated below, initiatives under consideration in Washington include a partial lifting of economic sanctions if the DPRK stops its missile exports. American sources hold that the volume of Pyongyang's missile exports has declined recently to below \$100 million a year. It has warned the DPRK that any further flight testing of long-range missiles or exports of such missiles 'would have very serious negative consequences for the evolution of US–DPRK relations'. Meanwhile, the DPRK periodically repeats its determination not to suspend the development, production, testing and employment of missiles 'if the US refuses to pay cash to compensate for the DPRK's losses'. During a visit to the US in May, Japan's Prime Minister has expressed interest in joining the DPRK and the US in discussions on the former's ballistic missile programme.

In June, American intelligence sources said they had evidence that the DPRK was preparing another test-launch of a *Taepodong-2* long-range ballistic missile, possibly later in the summer. US officials fear that another test will have a serious impact in Tokyo and Washington, and will jeopardise the chances of Dr. Perry's new policy approach being accepted in the US Congress. Another test by the North is also expected to give a further boost to the THAAD missile defence project and thus indirectly affect China. Japanese and US officials have said that a missile launch is probably not to be expected before August but meanwhile, a US missile-monitoring ship, the *Observation Island*, has entered the area. The US and the RoK has said once again that the DPRK would suffer 'very serious consequences' if it test-fires another long-range ballistic missile this year. South Korea's President has also issued a warning. During a visit to Beijing by Kim Yong Nam, Chairman of the Presidium

of the Supreme People's Assembly of the DPRK, in early June, China was sad to have urged the DPRK not to stage further long-range missile tests or develop nuclear weapons. Newspapers in Pyongyang have rejected Japan's concern about its missile plans as inappropriate meddling.

According to a major South Korean newspaper, in the early 1990s Israel discussed with the DPRK a \$1-billion deal under which that country would stop exporting 'Rodong I' ballistic missiles to Iran and Syria, in exchange for the purchase by Israel of a North Korean gold mine and the supply to Pyongyang of a large number of trucks. The deal is said to have been stopped by US intervention.

It has been reported that an executive meeting of the Korean Peninsula Energy Development Organization (KEDO), held in New York in mid-April, adopted an agreement on loan guarantees under which member states' liability would be restricted. The agreement is said to have been the result of a compromise between Japan and the Republic of Korea (RoK) on the one hand, and the European Union and the US on the other. Reportedly, the latter had sought assurance that they would not be held liable for the repayment of the cost of building the reactors. Tokyo and Seoul have already signed loan agreements with KEDO. Reportedly, those agreements need national parliamentary endorsement; once this is obtained construction work can start on the two light-water reactors KEDO is to provide to the DPRK. In Seoul, parliamentary procedures have begun and a bond issue worth US \$277 million has been launched to finance this year's contribution. For the longer term the South Korean government has been authorised to levy a three per cent surtax on electric power.

DPRK sources claim that NATO's air action over Kosovo has had a further negative effect on relations with the US, which they depict as an opponent 'determined to conquer the world through intimidation, pressure and aggression'; officials in Pyongyang say they are preparing for the war 'which the US is about to trigger in the Korean Peninsula'. In the view of some Western analysts, the North, while continuing to negotiate with the US, will speed up its missile development and related military programmes. Russian analysts say that due to shortages that affect the effectiveness of its conventional forces, Pyongyang feels compelled to rely on missiles as the principal deterrent against external threats.

A fifth round of four-party peace talks was held in Geneva from 24 to 27 April. According to the head of the US delegation, who chaired the round, there had been serious differences in positions but the parties would meet again in August. Reportedly, there was a basic disagreement on the agenda, with the South wishing first to discuss issues it thought would be easy to resolve, including some confidence-building measures, while the DPRK was said to have insisted on first discussing the withdrawal of US military forces from the South and concluding a peace treaty between itself and the US. A DPRK foreign ministry spokesman was quoted as saying that Pyongyang saw the withdrawal of US troops and the conclusion of a peace

accord as a foremost issue and considered the other matters as 'unessential and offbeat issues'. Among proposals said to have been advanced by the RoK and the US were the establishment of fast communication links between military headquarters; exchanges of visits by military officers; prior notification of military exercises; and the idea, first advanced by the Swiss government, to establish a 'humanitarian corridor' on the border between the two Koreas, through which aid goods could be despatched quickly. In a subsequent press briefing in Washington it was announced that the four delegations had agreed in the next round to consider these and similar measures as well as exploring further the outlines of a future peace regime on the Korean Peninsula.

In April, senior officials from Japan, the RoK and the US met in Hawaii with the stated purpose of coordinating their 'final stances' on the DPRK, before the US Policy Coordinator for the DPRK, William Perry, presented his recommendations for a new DPRK policy. Dr. Perry also had consultations in Tokyo and Seoul, before he began a visit to Pyongyang on 25 May. At a press conference after his visit, Dr. Perry said he had gone to the DPRK to hear at first hand views and perspectives of the government in Pyongyang before completing his policy review recommendations to the President. He had taken the opportunity to explore the possibility of a major expansion in US/DPRK relations and cooperation, as part of a process to address concerns about the North's missile and nuclear programmes. Press reports from Washington and Seoul stressed that rather than coming to negotiate, Perry was to explain initiatives he would include in his report to the US President for a new policy approach towards Pyongyang. His proposals were said to include a set of recommendations for a balanced 'carrot-and-stick' policy towards the DPRK that would offer specific incentives but also contain several stringent demands. Reportedly, the main incentive held out was the gradual lifting of the economic embargo in force against the DPRK since the Korean War of the 1950s. Other moves listed were understood to have been full diplomatic recognition and eventual economic cooperation, such as the expansion of foreign investments, assistance in agriculture and industry, and loans from various international organizations.

The demands Washington would submit to Pyongyang in return were said to include a call to implement the understanding between the two Koreas for the denuclearisation of the Korean Peninsula; the imposition of tightly-drawn limits on the DPRK's military programmes, including an end to the production of ballistic missiles capable of carrying payloads of 500 kg or more, and having a range over 300 kilometres (180 miles); and the cessation of the export of long-range ballistic missiles. There was also a report from Washington that Perry explored the possibility of including in the Agreed Framework inspections of further suspected DPRK nuclear-weapon sites. According to American officials, in case the plan was not acceptable to Pyongyang — which, reportedly, Washington saw as a high probability — there would be 'consequences'.

Reportedly, Dr. Perry carried a letter from US President Clinton, as well as messages from the Prime Ministers of Japan and the RoK, to the DPRK's head of state, Kim Jong-il. He said he had been given an unprecedented welcome and was treated with 'considerable courtesy and kindness'. The Supreme Leader of the DPRK had declined a meeting, which US officials said was not unexpected, and he was hosted by the Chairman of the Presidium of the Supreme People's Assembly, Kim Yong Nam; most of the discussions during the four-day stay in Pyongyang were said to have been with DPRK officials at Vice-Ministerial level. Upon his return to Washington, Dr. Perry said he did not at this time have anything he might characterise as a definitive response, but he had conveyed, 'clearly and firmly', US and Allied views and concerns. He did come back with the agreement, however, that missile non-proliferation talks would go on and the Agreed Framework would be respected.

Administration critics in the US Congress are said to be exercised over the postponement of the submission of the Perry report from the expected June date until late summer. The change appears to be seen as indicating a shift of the Administration to a policy more favourable to Pyongyang.

Shortly before Dr. Perry's visit to the DPRK, Republicans in the US House of Representatives introduced the North Korea Threat Reduction Act of 1999, which would make a comprehensive change in the US policy towards that country. The legislation, in contrast to the proposals made by Dr. Perry, would further formalise the sanctions on the DPRK until a number of conditions had been met, including the complete cessation by Pyongyang of the production and export of missiles. The act would prevent further food assistance or the shipments of oil under the Agreed Framework and set a range of requirements widely thought by observers to be very hard to meet. While the President was expected to veto the Bill and its adoption by the Senate was considered doubtful, there was fear in Washington that the Congressional move might have a further negative impact on relations not only with the DPRK but with China — especially since the bill would involve Taiwan in KEDO's activities and also demands the establishment of theatre missile defence in the area — and send a signal to Pyongyang that the positive actions proposed by Dr. Perry might be negated by future Congressional resistance.

Senior officials of the two Koreas met in Beijing in early June, to discuss a resumption of talks on the reunion of families in the two countries. Reportedly, the DPRK threatened to stop the exchange because its content had been leaked to the media before Pyongyang had taken a formal decision to proceed, but after the RoK promised to send it the 22,000 tons of fertiliser that were still lacking from the 100,000 tons it had earlier promised to send if Pyongyang agreed to talk about family reunions, the DPRK agreed to start the talks on 21 June.

Shortly after this was settled, a confrontation over access to fishing grounds arose between naval units from the two Koreas, each of whom accused the other of crossing the UN's demarcation line separating their

respective territorial waters. A nine-day stand-off between armed vessels from the two countries, during which naval units from the South were said to concentrate on driving off DPRK vessels by ramming them, ended with a gun battle in which ships on both sides were disabled and one DPRK motor torpedo boat was sunk and at least 20 Northern sailors died. The incident prompted the South to put its armed forces on combat-level alert; the US did not change the alert status of its troops but increased reconnaissance flights in the area, reinforced its early warning systems and sent additional naval units. On the tenth day, Northern vessels were seen leaving the area and tensions subsided, with no further action expected soon. Pyongyang announced the suspension of visits by RoK citizens, demanded that Seoul apologise for its 'aggression' in the Yellow Sea, and in a letter to the UN, accused the US of provoking war; it also rejected the sea border as 'imaginary'.

The North/South meeting at Beijing would nevertheless have begun as planned on 21 June, had not the DPRK side put off their appearance until the ship carrying the fertiliser arrived, on the 22nd. From the outset the meeting was said to have been the scene of mutual recriminations about the recent events. It adjourned after a day, when the DPRK side was understood to say they would return if the South made 'full preparations' for an apology. The talks were to resume on 1 July but the RoK said that it would stop shipping fertiliser to the DPRK if it continued to refuse the reunion of separated families.

Relief organisations maintain that aid from abroad has kept the DPRK's food shortage from worsening, but that there is still a critical need for food, fertiliser and pesticides. The World Food Programme (WFP) has said that in early April the DPRK distributed the last of the Autumn 1998 harvest and people could expect little until the first vegetable and potato crops were harvested in June; however, given the enduring drought that began during the planting season, the harvest is expected to be meagre. Western religious leaders are calling for immediate food assistance to the DPRK to complement the 'substitute foods' such as edible roots, grasses, seaweed, and corn stalks. The US Department of Agriculture has said it is considering more aid. A report from South Korea says that in 1999 UN agencies would send \$376.11 million worth of aid to the DPRK, mostly as food. The office of the UN High Commission for Refugees claims that many children are trying to escape the famine by fleeing into China, which is causing serious problems in Chinese border areas.

(R, 22/3, 25/3, 26/3, 29/3, 31/3, 9/4, 19/4, 20/4, 24/4, 25/4, 29/4, 30/4, 4/5, 16/5 18/5, 20/5, 24/5, 29/5, 30/5, 2/6, 8/6, 9/6, 11-13/6, 15-19/6, 21-26/6; USIA, 22/3, 24/3, 30/3, 2/4, 13/4, 27/4, 13/5, 14/5, 20/5, 21/5, 24/5, 8/6, 15/6, 25/6, 28/6; JAI, 23/3, 24/3, 26/3, 1/4, 6/4, 12/4, 22/4, 26/4, 28/4, 29/4, 16/5, 19/5, 21/5, 24/5, 25/5, 27/5, 28/5, 2/6, 9/6, 17/6, 18/6; AFP, 24/3, 30/3, 16/4, 21/4, 25/4, 7/5, 12/5, 13/5, 16/5, 23/6, 27/6; NYT, 24/3, 25/3, 30/3, 31/3, 1/4, 6/4, 28/4, 18/5, 21/5, 28/5, 30/5, 3/6, 9-20/6, 22/6, 24/6; WT, 24/3, 2/4, 17/6; KT, 25/3, 31/3, 28/4, 4/5, 25/5, 27/5, 3/6, 9/6, 11/6, 15/6, 16/6, 18/6, 21/6; WP, 25/3, 1/4, 21/5, 24/5, 30/5, 16/6; ChI, 26/3, 29/3, 1/4, 5/4, 6/4, 9/4, 11/4, 28/4, 7/5, 24/5, 1-3/6,

8/6, 14-17/6, 21/6; KH, 26/3, 7/4, 14/4, 16/4, 17/4, 20/4, 5/5, 7/5, 18/5, 19/5, 25/5, 4/6, 10/6, 12/6, 17/6, 18/6, 25/6; Chicago Tribune, 28/3; AP, 29-31/3, 2/4, 4/4, 5/4, 16/4, 22/4, 26/4, 27/4, 6/5, 11/5, 13/5, 16-20/5, 22/5, 25/5, 27/5, 29/5, 1-3/6, 8-12/6, 14-27/6; IHT, 1/5, 18/5, 29/5, 11/6; YOS, 1/4; DJ, 2/4, 20/4; KBS TV [Seoul], 5/4, in BBC, 7/4; Daily Yomiuri, 6/4, 19/6; China Daily, 6/4, 20/5; Y, 14/4, in BBC, 15/4; Far Eastern Economic Review, 26/4; Philadelphia Enquirer, 26/4; Bridge News [Washington, DC], 11/5; FT, 12/5; US DoA Press Release, 17/5; Taehan Maeil [Seoul], 19/5, in BBC, 21/5; US Congress Press Release, 19/5; WSJ, 21/5, 14/6, 16/6; San Jose Mercury News, 23/5; Kyodo News Service, 24/5, in BBC, 24/5; LAT, 15/6, 16/6; FAZ, 16/6; SDZ, 16/6)

- The Foreign Ministers of India and Pakistan met in April to discuss security issues and nuclear doctrines and reportedly adopted a schedule of further meetings. The Foreign Secretaries of the two states met in May to discuss issues relating to Kashmir. Shortly after, hostilities broke out in Kashmir, which have been steadily escalating. The sides accuse each other of having started the armed conflict, each claiming it wants peace and a full-fledged war is unthinkable, now that they both have nuclear weapons. India has said that the use of nuclear weapons over Kashmir is out of the question, but its Defence Minister, George Fernandes, stated in an interview that he feared Pakistan could be tempted to use nuclear weapons in the event of a full-blown conflict between the two countries, and there has been a report of an unnamed source in Islamabad saying that in an emergency Pakistan would use 'any weapon' to defend itself. On 31 May, the Prime Ministers of the two countries agreed to hold talks aimed at diffusing the situation. On 12 June, the two Foreign Ministers met in New Delhi, but as reported they could not agree on ways to lessen the tension. India's Prime Minister has ruled out further talks until militants who reportedly have infiltrated Indian-held parts of Kashmir are withdrawn; he rejected third-party mediation on the issue. Pakistan said it was unable to withdraw insurgents it did not control and accused India of violating the demarcation line. The armed hostilities escalated steadily and there was international concern about the possibility of a full-scale war developing. On 23 June, the task force of senior officials from members of the G-8, reinforced by Argentina, Brazil, China, South Africa, and Ukraine, met in Kiev. (This task force was set up on 12 June 1998 to consider problems arising from the South Asian nuclear tests and to coordinate efforts of enhancing the nuclear non-proliferation regime and easing tension in South Asia.)

In May, the anniversary of the first nuclear tests had been an occasion for senior officials and politicians, in New Delhi and around the country, to celebrate India's new-found might. Foreign observers seemed concerned at the difference between India's nuclear doctrines, ostensibly based on non-first-use and a credible minimum deterrence, and that of Pakistan, which sees its nuclear arsenal as a deterrence against India.

American officials are said to believe that the Indian thermonuclear test of 11 May 1998 may not have been

a full success. India's Department of Atomic Energy claimed at the time that there had been one test of a thermonuclear device, with a yield of 43 kilotons (kt); one of a fission device with a yield of 12 kt, and a low-yield device, of 0.2 kt. Some US experts are now said to believe that the largest detonation involved either a boosted fission device or that it was a true thermonuclear device of which the second stage did not fully ignite. Apparently, seismic data analysed in the US pointed to lower yields than claimed by India, viz. a total yield of 30 kt at most, as apparently did data collected by the Preparatory Commission for the Comprehensive Test Ban Treaty Organization in Vienna, where the total yield of all three devices was calculated at 20 kt. Suggestions in Washington, that in light of these unsatisfactory results, India might stage more tests, have been indignantly denied in New Delhi.

After several deferrals, on 11 April, India successfully test-launched its solid-fuelled, two-stage 'Agni II' ballistic missile. The missile, which can carry a 1,000 kg payload (the nuclear warhead of the missile is supposed to have been tested in May 1998) was said to have been launched from a mobile launcher. The test-flight — of which Pakistan was said to have had advance warning — appears to have covered 1,250 miles (2,000 km); further tests are expected. Comments from New Delhi note that India now can hit targets virtually anywhere in Pakistan, and in Western China. India's Prime Minister has said that his country 'remains committed to minimum deterrence, to no-first-use of nuclear weapons, and never to use them against non-nuclear-weapon states'. Specialists in Indian politics have noted that the latest test-launches happened to come just when Prime Minister Vajpayee's position was weakened by friction among members of his government coalition. In the aftermath of the launch, Vajpayee confirmed India's no-first-use undertaking and his intention to limit the nuclear weapons programme to 'minimal deterrence'. On 16 April, a day after Pakistan had ostensibly responded to India by testing its Shaheen missile, India carried out two tests of its *Trishul* surface-to-air missile; *Trishul* is said to be one of five new missiles under development.

China has commented that the tests violated UN Security Council resolution 1172 which called on India to stop developing nuclear weapons and the means of their delivery. It has expressed concern that the move could initiate another round of arms races in the area. There has been a report that, in response to these moves, China has redeployed some of its missiles against India. During a visit of India's Foreign Minister to Beijing, it was announced that China and India had agreed to establish a 'security dialogue mechanism' to discuss confidence-building measures.

(AP, 22/3, 29/3, 12/4, 16/4, 28/5, 17/6, 19/6, 23/6, 29/6; R, 22/3, 12/4, 15/4, 17/6, 23/6, 25/6; E, 10/4; NYT, 12/4, 17/4, 26-28/5, 1/6, 9/6, 13-15/6; FT, 9/4, 12/4, 28/5; LAT, 12/4; LT, 12/4; FAZ, 12/4, 29/5; EP, 12/4; IHT, 13/4, 8/6, 9/6, 11/6; JDW, 28/4; LM, 12/5; E, 29/5, 5/6; ST, 30/5; DW, 1/6; AFP, 3/6; NW, 10/6; IT, 24/6. See also below under **Pakistan**.)

- When in April the UN Security Council resumed its deliberations on the issue of weapons of mass

destruction in Iraq, it had before it recommendations by three panels set up earlier in the year to propose, respectively, further action to disarm Iraq, improve the availability of food and medicine in that country, and take action regarding other consequences of Iraq's invasion of Kuwait, in 1990.

Given the fact that for the past seven months no verification activities have taken place in Iraq, the question what further action can ensure Iraq's disarmament and verify that it complies with its obligations has become a controversial topic among the Council's members. As reported, Iraq has rejected the recommendations of all three panels with the argument that it will not accept any further inspections unless the sanctions imposed on it by the Security Council after the 1991 Persian Gulf War are lifted. China, France and Russia are known to favour an end to the sanctions, but the latter two states apparently also support the panel recommendation that an ongoing monitoring and verification system should be implemented as soon as possible; this Iraq also rejects. The US opposes the lifting of sanctions as long as there are unanswered questions about Iraq's ability to manufacture weapons of mass destruction.

On 15 April, the Russian Federation circulated in the Security Council a draft resolution calling for the lifting of the sanctions against Iraq. The Netherlands and the UK also submitted a draft, proposing that UNSCOM should be replaced by an enlarged UN Commission for Investigation, Inspection and Monitoring. Under this proposal, Iraq would be called upon to give the new body 'unrestricted access and provision of information' and to grant its inspectors 'immediate, unconditional and unrestricted access to any and all areas, facilities, equipment, records and means of transportation which they may wish to inspect'. According to the draft, once it was clear that Iraq complied with these requirements, sanctions would be partly lifted, among other things by abolishing the \$5.2-billion limit on the oil Iraq may sell every six months to buy food and medicine. The fact that the resolution would have the Security Council approve the suspension of oil exports every four months is said to have obtained the US' backing. By late June, the draft had been revised twice; consultations were going on among the five permanent Council members, with only the US supporting the UK draft; France now had its own draft, which sought a compromise between the two approaches. Iraq's Foreign Minister reportedly said in Cairo on 20 June that any plan concerning Iraq presented to the Security Council without consultation with Baghdad 'does not concern Iraq'; that Iraq would not accept anything short of a total lifting of sanctions; and that the British-Dutch draft would 'transform Iraq into a colony'. Iraq had already called the French proposal 'soft and disconcerting', and accused France of caving in to Washington. In the Security Council, support for the Dutch-UK resolution was said to be growing.

Meanwhile, the IAEA reported that since 16 December 1998, when its verification activities in Iraq were suspended, it had been unable to implement its mandate and it could not provide any measure of assurance about Iraq's compliance with its obligations.

The *Wall Street Journal* has excerpted allegations from an Iraqi defector that Baghdad had a light-water (PWR) reactor 'for its nuclear weapons program' and was building a calutron-based uranium-enrichment facility. The 'large' reactor, which was said to have been acquired to produce plutonium, was supposed to have been hidden from IAEA inspectors by being dismantled and moved. Experts question the story. The person cited as its source is said to lack technical credibility and the report is full of practical improbabilities, among them the fact that a sophisticated reactor of the type described is unsuitable for the production of weapons-grade plutonium, while 'moving' it in secret would be extremely unlikely. Also, the site of the supposed enrichment plant has been monitored and, facing future inspections there, Iraq would hardly use it for the construction of an enrichment facility.

In early June, Russia's Security Council representative accused UNSCOM of negligence by having left behind in Baghdad some toxic chemicals that constituted a health risk to Iraqi citizens. Ambassador Butler explained that *de minimis* quantities of chemical compounds used to calibrate measuring devices were stored in UNSCOM's laboratory and sealed when inspectors left in December 1998. He recommended that the Security Council authorise the despatch of a team of experts to destroy the samples and close the laboratory. In late June, UN Secretary-General Annan arranged to send a team of ten or eleven 'totally independent and neutral' experts to remove the substances left behind in the laboratory; Iraq agreed to admit them. The group was to include four experts from the Organization for the Prohibition of Chemical Weapons and one UNSCOM official, an administrator from Finland. Some observers saw the fact that UNSCOM was not asked to do the job, and that the composition of the team had apparently been agreed upon by Iraq as an unfortunate precedent.

Mr. Butler, whose contract as Executive Chairman of UNSCOM expired on 30 June, is joining the American Council on Foreign Relations as 'diplomat in residence'. He has said he intends to write a book about his experience as head of UNSCOM.

During the period covered by this issue of the *Newsbrief*, American and British aircraft struck intermittently at targets in Iraq's no-fly zones, including air defence sites, radar installations, missile batteries, and military command and control centres.

American media have criticised the fact that in the midst of NATO's military action against Yugoslavia, the US Administration had concurred with the purchase by Baghdad of \$22 million worth of Yugoslav goods under the oil-for-food programme.

An assessment by the Israeli Defence Forces is reported to rank as the number one military threat to that country missiles from Iran and Iraq, implying the failure of attempts by the UN to end Iraq's medium-range ballistic-missile capability.

According to reports from news agencies some Iraqi opposition groups are uniting in their resistance to the country's regime, but the main Shi'ite Moslem group, the Supreme Council for the Islamic Revolution in Iraq,

has so far kept aloof. Currently, with the help of the US Special Representative for the Transition in Iraq, discussions are said to be underway among eleven opposition groups in an attempt to make plans for armed resistance and for the allocation of the \$97 million which the US Congress has made available for this purpose; the Congress has urged the Administration to disburse these funds as soon as possible. After a meeting of the US Secretary of State and representatives of the eleven groups, it was announced in Washington that at the current stage money would be allocated for 'non-lethal purposes': training in civil administration and the establishment of a broadcasting system. The commander of US forces in the Middle East has come out strongly against supplying arms to Iraqi opposition groups; the UK government is also said to have advised Washington against giving them direct military backing. The US Administration appears willing in principle, however, to provide weapons and military training if the Iraqi umbrella organisation, the Iraqi National Congress, can come up with detailed actions plans at a meeting planned for July.

A Munich court has sentenced Karl-Heinz Schaab, a German specialist in uranium enrichment, to five years in jail and a fine of 60,000 marks (\$32,000). Schaab was accused of high treason for having supplied Iraq with sophisticated ultra-centrifuge technology obtained from his employer, MAN-Technologie. In his defence, Schaab said that the charge was essentially correct, but the device based on his information did not function properly. He had accepted a fee of 100,000 Deutsche Mark.

(NYT, 27/3, 31/3, 1/4, 8/4, 9/4, 16/4, 26/4, 4/5, 12/5, 14/5, 22/5, 25/5, 2/6, 3/6, 8/6, 17/6, 19/6, 25/6, 26/6; IHT, 31/3, 30/6; AFP, 8/4, 8/6; AP, 8/4, 22/6; R, 9/4, 15/4, 27/4, 3/5; Iraqi Radio, 14/4; Radio Monte Carlo, 14/4; Al-Hayah [London], 29/4; DJ, 5/4; Ha'aretz [Tel Aviv], 5/5; ISIS Article Review, 14/5; I, 26/5; FT, 4/6; SDZ, 14/6, 16/6; FAZ, 16/6; WSJ, 16/6; IAEA Press Release PR 99/6, 17/6; Iraqi Radio Network, 20/6; LT, 30/6)

- **Israel** is said to have developed a third-generation of its Jericho ballistic missile, with a range of 7,200 miles (11,500 km). (**Ha'aretz** [Tel Aviv], 12/4)
- On 14 April, ostensibly in response to India's test-launch of the *Agni II* ballistic missile, **Pakistan** tested a medium-range nuclear-capable ballistic missile, *Ghauri II*. The liquid-fuelled missile was reported to have flown a distance of about 1,100 km (700 miles) — one press agency reported that it had covered 1,380 km (862 miles). Prime Minister Nawaz Sharif said its range could be extended to 1,400 miles (2,300 km) The test of *Ghauri II* was followed within 24 hours by the launch of a *Shaheen I* missile. *Shaheen I* is reported to be solid-fuelled, to have a range of 600 km (375 miles), and to be capable of carrying a payload of 1,000 kg (2,200 lbs). *Ghauri II*, which can be fired from a mobile launcher, had been exhibited earlier during a parade in Islamabad. On that occasion — which reportedly was marred by a public quarrel between A.Q. Khan's Kahuta Research Laboratory and the Pakistan Atomic Energy Commission as to which

should be credited with achieving the country's nuclear capacity — Prime Minister Nawaz Sharif spoke of Pakistan's 'entry into the coveted nuclear club', and Islamabad announced a one-week celebration to mark the first anniversary of the nuclear tests; Mr. Sharif used that event to reiterate that nuclear deterrence was now indispensable to his country's security and would be preserved.

Pakistan progress in missile development is said to be due in part to foreign assistance. The launch of the *Ghauri* was expected as soon as India tested *Agni II*, which put Prime Minister Sharif under pressure both from his own party and from the opposition to respond in kind. Sharif said at the time that his government did not want to enter into an arms race but reserved the right to strengthen its defence 'with every development in this region'. Besides the two missiles tested, a somewhat longer-range version of *Shaheen I*, *Shaheen* number II, was also said to be available. Pakistan has announced that the missile tests concluded for now 'the series of flight tests involving solid and liquid-fuel rocket motor technologies'. It had given New Delhi two days notice of the tests.

The Pakistani Foreign Minister has said that apart from the nuclear power plant at Chashma, his country does not have any nuclear cooperation with China. The chairman of the Chinese People's National Congress, on a visit to Pakistan, told reporters that 'the nuclear devices Pakistan exploded were the results of Pakistan's own scientific research, and our cooperation in the nuclear field with Pakistan is limited to the peaceful use of nuclear energy'.

On the first anniversary of Pakistan's nuclear tests, Dr. A.Q. Khan said that the country now had enough nuclear weapons to 'destroy the enemy in case of aggression' and that 'Pakistan's defence [was] invincible'. He added that he saw no need to further waste [*sic*] 'hard earned income' to develop more strategic arms, but he was also quoted as saying that more nuclear weapons were being produced. Dr. Kahn had said earlier that his country started to develop nuclear weapons in 1976 and that the uranium enrichment plant at Kahuta [which initially used gas centrifuge technology purloined in the Netherlands and was later upgraded with advanced technology obtained from several other European nations — Ed.] became operational in 1982. He was further quoted as saying that Pakistan had developed nuclear weapons technologies based on enriched uranium and on plutonium. The plutonium approach was said to have been substantively advanced when the production reactor at Khushab started up, in 1998. According to US intelligence, Pakistan has managed to produce the necessary heavy water domestically.

Pakistan's government, reportedly with the help of the IAEA and the US, has developed legislation on nuclear export controls. The legislation is said to be of direct relevance to the issue of Pakistan's participation in a Fissile Material Cut-Off Treaty (FMCT). At the same time, a Karachi newspaper reported that in late May, Dr. A.Q. Khan received a cabinet minister of the United Arab Emirates (UAE) at the Kahuta Laboratory, and assured the minister, who was said to have asked what

help Pakistan could give him, that it could not give him the atomic bomb or a missile on a platter, but could train UAE manpower.

(NYT, 24/3, 14/4, 15/4, 16/4; AP, 5/4, 9/4, 12/4, 14/4, 15/4, 25/5; R, 12/4, 14/4, 15/4, 24/5, 29/5; BBC, 14/4, 25/5; DJ, 14/4, 15/4; PBS, 14/4; Radio Pakistan, 14/4, in BBC, 16/4; USIA, 14/4; AFP, 15/4; Carnegie, 15/4; NW, 15/4, 20/5, 24/6; FT, 15/4; G, 15/4; Pakistan Observer, 1/5; NF, 17/5; Nature, 25/5; Jasarat [Karachi], 26/5 in BBC, 28/5)

j. Nuclear Material Trafficking and Physical Security

- An iridium-192 radiation source stolen in March from a vehicle at Paris Charles de Gaulle airport was recovered in **Belgium** a month later. It was found among material delivered to a metals processing firm; the link to the place of the theft was apparently made through the IAEA's information system. (NNN, 26/4)
- In connection with the NATO air action against Yugoslavia, special precautions were taken at the Kozloduy power station in **Bulgaria**, 38 miles (62 km) from the Yugoslav border. Measures include tighter security, reinforced fire-fighting services and introduction of floating barriers on the Danube to prevent oil slicks or debris entering the cooling system. There is a report that officials from the IAEA and from European governments had considered asking Bulgaria to shut the station down for the duration of the air strikes.

On the border between Bulgaria and Romania police have seized 2 kg of enriched uranium in the possession of a Kurd travelling from Turkey to Moldova.

(R, 22/4; Lib, 31/5; NW, 3/6)

- In the **United States**, alleged attempts by **China** to acquire American nuclear secrets continue to receive exorbitant media coverage, as do accusations by critics of the Administration about supposed inaction of officials in the face of disclosures that China's actions might have compromised American security interests. In late March, there were intelligence reports of 'deep Chinese penetrations' into the American nuclear-weapons programme and there were fears that Beijing had managed to obtain design information for several advanced warheads, including a neutron weapon — which it said to have tested in 1988 — and a nuclear explosive device that creates an electro-magnetic pulse (EMP) to block out an adversary's electronic communications. Administration officials confirmed that in 1995 they had learned of Chinese efforts to obtain US technology with which to modernise their nuclear-weapon capability, and that a leak might have occurred at one of the nation's nuclear laboratories. The officials stressed that the Administration had immediately started investigations and taken measures to tighten security, doubling its counterintelligence budget for 1999 and again for 2000. A damage analysis was being made.

This assessment was completed in April. It was said to have confirmed that China had obtained advanced warhead data from an American nuclear weapons laboratory, comprising basic design information on modern re-entry vehicles and 'a variety of US design concepts and weaponization features, including those of the neutron bomb'. Intelligence sources are said to believe that altogether China may have obtained design information on six currently deployed US nuclear warheads, notably the W-62 warhead of the *Minuteman* III intercontinental ballistic missile (ICBM); the W-76 warhead for the *Trident* C-4 submarine-launched ballistic missile (SLBM); the W-78 warhead of a newer version of the *Minuteman* III ICBM; the W-87 warhead for the *Peacekeeper* ICBM; and the W-88 warhead for the newest *Trident* D-5 SLBM. The assessment, made by a multi-agency team that was overseen by an outside panel of experts, was said to be concerned in particular that having obtained modern US nuclear technology, China might be less hesitant to share its older technology with other countries. It is also supposed to have said that while China's efforts did not seem to have led so far to the modernisation of its deployed strategic force, it was likely soon to deploy improved weapons — as may have been borne out by the assertion of intelligence officials in mid-May that China is installing a new warhead based on the design of the American W-70 neutron bomb, on a long-range (5,000 miles or 8,000 km) missile, the *Dong Feng*-31 (DF-31), which could be ready for deployment in three or four years (see the item on China under **h. Nuclear Policies and Related Developments in Nuclear-Weapon States**, page 12).

On 25 May, a Congressional Select Committee on US National Security and Military/Commercial Concerns with the People's Republic of China, which since mid-1998 had looked into the accusations about improper transfers of technology to China (see *Newsbrief* no. 45, pages 3 and 4) published a three-volume, 700-page unclassified report; 200 more pages of classified information were held back. The bi-partisan committee, in which Republican members had the majority, concluded that over a period of 20 years, Beijing had 'stolen' classified American information about every currently deployed nuclear weapon in the US arsenal, and it was 'exceptionally likely' that Chinese spying was continuing. The Committee was of the view that the information purloined by Beijing would allow it to build and deploy an up-to-date nuclear arsenal and that it would do so.

The Select Committee Chairman, Republican Christopher Cox, has said that China's espionage is part of 'a deliberate pattern of action', with which since the 1970s China has been systematically trying to obtain information on American weaponry. Cox claims that visits by 'hundreds' of Chinese scientists and other officials to US weapons laboratories 'provide a cover for [Chinese] spy handlers to meet their agents on the inside'. The report of the Select Committee says that besides nuclear data, China has, among other things, illegally obtained missile and space technology which it has used to improve its military intelligence capabilities. The material is said to include guidance technology for missiles and military aircraft; classified developmental research on detection techniques of

submarines; and design information on ballistic missiles. The Committee's report calls China '... one of the leading proliferators of complete ballistic missile systems and missile components in the world' and contains the assumption that the data allegedly obtained in the US will enable it also to improve the quality of its exports.

Many members of the US intelligence community are said to doubt these conclusions, nor is there agreement on the amount and nature of the information supposedly affected. Critics see it as unlikely that China could utilise all the information it is supposed to have gained. Democrats in the US Congress have said that the Committee's published conclusions give a worst-case view that goes beyond the facts given in the classified portion; Republican members of the Select Committee deny this. Some assertions, such as that about the theft of information on the enhanced-radiation (neutron) bomb, are said to be based on a single piece of intelligence reporting, and it has not been possible to identify a logical suspect. The picture is further clouded by a report that in 1995, a presumed Chinese agent entered the CIA Office in Taipei, carrying a large amount of documents including one indicating that China had obtained secret nuclear information from the US. Some of this appears to be 'degraded information' which China may have deliberately passed back to show that it knew it had been fed misinformation. UK officials are said to be sceptical about the claim of a Republican member of the US Senate Intelligence Committee, that Chinese espionage has compromised the security of its Trident submarines.

Much media attention has been focused on a Taiwan-born Chinese-American scientist, Wen Ho Lee, an employee of Los Alamos National Laboratory, who, reportedly, in 1994 and 1995 transferred classified information from a restricted computer system at the laboratory to a non-classified network, where it is thought to have been 'accessed' by unknown parties; there does not seem to be evidence that the access was made on behalf of China. Mr. Lee was reportedly questioned by law enforcement officers, failed a polygraph test and was subsequently dismissed for infringing security rules. He had been under investigation since 1996 but had not been charged with any crime. Recent reports indicate that the evidence against him is largely circumstantial and would not suffice for an indictment for espionage; Mr. Lee claims that he only downloaded unclassified files for his own use.

Some weapons experts assert that the material transferred to the non-secure computer, although by no means up-to-date, is 'the distillation of more than a half century of research' on how to perfect nuclear weapons. While one senior weapons physicist has claimed that the information was equivalent to a scientific blueprint for specific weapons, other scientists are said to doubt that the computer codes in question were sufficient by themselves to produce copies of specific weapons. Yet others are quoted as saying that with these programmes, weapons designers could produce simulations of nuclear explosions realistic enough to check the feasibility of new designs before proceeding to actual test explosions. The Federal Bureau of Investigation

(FBI) has announced it is looking into the reasons why Mr. Lee retained access to classified nuclear information long after it had become apparent that he might have downloaded information that would benefit Beijing; it is also investigating why the manipulation of substantial quantities of information was detected so late. At Congressional hearings in mid-April, a senior DoE official — since rewarded for 'vigilance' — testified that his superiors had down-played or ignored evidence that China had obtained secret information. He said he was told this information could discredit the laboratories and harm their chances of getting funds.

While reportedly accepting some of the Committee's findings, and acknowledging that some laxness in the application of security measures may have occurred at weapons laboratories, Administration officials stress that important data, including the design of the W-88 warhead, were probably passed on during the term of a previous President; the Cox Committee also reports to have found evidence of security failures going back to several previous Administrations. Thus, the W-70 warhead design may have been passed on in the late 1970s or early 1980s; a scientist whose name has not been revealed, is said to have been dismissed in that connection but not arrested. There have also been allegations that around that time, when the Cold War with the Soviet Union was at its height and China's relations with that country were also bad, information that might help strengthen China's nuclear forces may have been allowed to escape.

In hearings held by both Houses of the US Congress, government services were chastised for their apparent unwillingness to take responsibility for lax security and tardiness in reacting to obvious shortcomings. The criticism was fed by assertions that in November 1998 Cabinet-level officials received warnings of acute intelligence threats posed by China, but also, allegedly, by other states, and that computer systems at weapons laboratories were being penetrated by non-authorized individuals. There were also claims that already in 1996, US authorities knew that China, supposedly unable to detonate a neutron weapon built solely with information obtained in the 1980s, had come back for more data, with which it then solved the problem. Calls have been made in the US Congress for the dismissal of National Security Advisor Sandy Berger, for presumed dereliction of duty, and of Attorney General Janet Reno, who is accused of having been unwilling to authorise 'aggressive' investigations the FBI had called for. For his part, the head of counterintelligence at DoD has accused congressional critics of having ignored in 1997 repeated requests for funds for measures to prevent espionage at the weapons laboratories.

In response, the Administration has pledged to strengthen security at all branches of DoE. In April, the classified computer network between the Los Alamos, Sandia, and Lawrence Livermore National Laboratories was substantially strengthened; in the interim all scientific work was suspended. In May, Energy Secretary Bill Richardson announced a halt to the declassification of nuclear documentation that had been put into motion during the first term of the current Administration, in response to criticism of DoE's exaggerated secrecy. Richardson also said he would

concentrate all of DoE's security efforts in one office, to be headed by a former commander in chief of the US Strategic Command, as 'security czar'. DoE also reinstated background checks of foreign visitors to its weapons laboratories, which it had allowed to lapse in 1994. Since then, DoE said, the Laboratories had received 4,409 Chinese and Russian visitors, and there was 'no guarantee information did not escape'. Reportedly, however, Energy Secretary Richardson opposes as not being in the country's interests a proposal by the Chairman of the Senate Select Committee on Intelligence to restrict visits by foreign nationals to any American nuclear laboratory. Foreign scientists have worked at the national laboratories since their inception, but of the foreign nationals working there now — Los Alamos is said to employ 456 non-US citizens, including 97 Chinese nationals — many fear for their jobs. The spy scare has prompted the FBI to strengthen its counter-intelligence service to the level it had at the end of the Cold War.

A report by the President's Foreign Intelligence Advisory Board which came out in mid-June is critical of the Cox report, of which it says, among other things, that it has minted '[p]ossible damage ... as probable disaster'. It also points out, however, that Secretary Richardson was wrong when he said he had fixed the problem of lax security at the weapons laboratories. The report expresses harsh criticism of the security ethic at DoE, which it describes as a 'dysfunctional bureaucracy' where the Administration's security directives are not fully carried out; it urges the creation of an Agency for Nuclear Stewardship to oversee the weapons laboratories, which could either be a semi-autonomous body, answerable directly to the Secretary, or an independent Agency for Nuclear Stewardship within DoE. Secretary Richardson has expressed strong opposition to both ideas, which are currently being discussed in the US Senate.

Sometime before the publication of the Cox report, the Chairman of the House International Relations Committee had accused the Administration of withholding information from Congress and said that if members had been aware that China might have obtained sensitive American weapons technology, Congress would probably not have given its approval to the implementation of the 1985 agreement on nuclear cooperation. The Nuclear Regulatory Commission (NRC), presumably under pressure from the White House where President Clinton was about to meet President Jing Zemin, is reported to have given its consent to the agreement without having seen all the documents involved.

The Wisconsin Project on Nuclear Arms Control, an American non-governmental think-tank in the area of nuclear non-proliferation, claims that since 1988 the US government has approved \$15-billion worth of strategic exports to China and that some of the dual-use equipment sold went to Chinese nuclear, missile and military sites. Allegedly, several of the purchasing entities subsequently provided equipment in those fields to Iran and Pakistan. The Wisconsin report maintains that the damage caused to US national security by these sales was greater than that from the alleged espionage at Los Alamos. Senator Helms, has

expressed concern about the source of the heavy water Pakistan uses in the plutonium-producing 50-MW Khushab reactor, but his presumption that this was supplied by China seems to have been discredited by American intelligence reports that Pakistan probably produced the heavy water itself. An intelligence report from DoD is supposed to have said that China is continuing its transfers of missile and weapons technology to countries in the Middle East and South Asia. Washington officials are quoted as saying that China has provided the DPRK with special steel used in building missile frames and that the US government had vainly protested against this export.

On 10 May, the US Administration notified Congress that it had approved the transfer to China of specific items — satellite fuel and explosive bolts — connected with the launch of a communications satellite. The letter to Congress contained assurance that the transfer will not harm national security or significantly improve China's military capability in space.

The US Department of Commerce has published a list of six missile and nuclear sites in China to which US firms may not export sensitive technological items, including computers, without federal approval. China has announced that on 12 June, one of its missiles put two US communications satellites into orbit.

The stridency of American media reports about China's alleged espionage, and the shrill anti-Chinese rhetoric in the US Congress seem to have added to the deterioration of bilateral relations that were already hurt by controversies over human rights, the 'globalisation' of NATO's strategic doctrine, and US plans for the deployment of a theatre missile defence in East Asia. The tension escalated sharply after US missiles, presumably intended to destroy a Yugoslav armed forces facility in Belgrade, hit the Embassy of the People's Republic of China instead, killing three Chinese nationals, injuring twenty, and causing much physical damage. The Chinese government insisted that the attack had been deliberate and the result of 'a NATO conspiracy', and protested vehemently. Extensive anti-American demonstrations were held in Beijing, including an assault on the US Embassy there. US apologies at the highest level were not accepted right away. It took a week of negotiating for the UN Security Council to agree on the wording of a declaration which, in the end, expressed 'profound regrets' over the bombing and 'deep sorrow' at the loss of lives, and called for a thorough investigation of the event. The conclusions drawn in the report of the Cox Committee, which came out less than two weeks after the Belgrade event, prompted Beijing to further denunciations; a government spokesman alleged that it had been prepared with the intention of stirring up anti-Chinese sentiment. Beijing's Minister of Information called it a tissue of half-truths, conjectures and lies, that offered no substantive evidence; he said the report was 'a great slander against the Chinese nation and...typical racial prejudice'. The official Chinese press compared it to the 1950s McCarthy campaign and called the US a threat to China and the developing world. Chinese sources claim that information China is accused of stealing is available on the internet. [US sources point

out that much of it was published during the 1980s by the Natural Resources Defense Council — Ed.]

Members of both Houses of the US Congress have called for a halt in the Administration's policy of 'engagement' with China, which they blame for much of the current problems. President Clinton, on the other hand, warned the American public against a 'campaign-driven cold war with China', which would have tragic consequences. An American delegation headed by Under-Secretary of State Thomas Pickering, went to Beijing in mid-June to present a detailed explanation of the Belgrade incident, but China rejected the assertion that the attack was a mistake as 'unconvincing' and 'not logical'. An American offer of compensation for the death, injury and property damage was accepted; details are to be discussed. China's state-owned media described the American presentation as 'deceitful talk'. According to American news reports of late June, Beijing's unwillingness to accept the US explanation may be prompted by the fact that, as reported, the satellite-guided bombs struck the wing of the embassy where the electronic information equipment was housed, and that two of the three persons killed were intelligence officers.

(**Segodnya**, 18/3, 23/4, 27/5; **NF**, 22/3, 3/5; **Newsweek**, 22/3, 11/5; **R**, 22/3, 22/4, 29/4, 3/5, 10/5, 12/5, 14/5, 15/5, 28/5, 14/6, 17/6, 18/6; **WSJ**, 22/3, 22/4, 9/5, 10/5, 20/5, 21/5, 26/5, 28/5, 18/6; **WT**, 22/3, 31/5, 7/4, 15/4, 28/4; **AP**, 23/3, 7/4, 22/4, 23/4, 1/5, 6/5, 11-15/5, 17/5, 22/5, 17/6, 18/6; **Carnegie**, 24/3; **NYT**, 27/3, 7-9/4, 13/4, 17/4, 19/4, 21-23/4, 28-30/4, 2/5, 6/5, 10-14/5, 21/5, 23/5, 25-28/5, 30/5-1/6, 10/6, 15/6, 17/6, 18/6, 23/6, 25/6, 26/6; **USA Today**, 6/4; **WP**, 7/4, 12/5, 28/5, 29/5, 14/6, 15/6, 17/6, 18/6; **FT**, 8/4, 21/4, 26/5, 27/5; **IHT**, 14/4, 30/4, 7/5, 8/5, 15/5, 20/5, 25-27/5; **USIA**, 21/4, 17/6; **LAT**, 22/4, 28/4, 29/4, 3/5, 20/5; **I**, 27/4, 15/5, 26/5; **DT**, 29/4, 15/5, 25/5, 26/5; **LT**, 29/4, 15/5; **Cox News Service**, 4/5; **Central News Agency [Beijing]**, 7/5; **People's Daily [Beijing]**, 11/5; **UN Security Council Press Release SC/6675**, 14/5; **E**, 15/5; **DP**, 17/5; **NF**, 17/5; **N**, 20/5; **NW**, 20/5, 27/5, 3/6; **EP**, 25/5; **Lib**, 25/5; **DW**, 26/5; **G**, 26/5; **NPR**, All Things Considered, 26/5; **SDZ**, 26/5, **SN**, 26/5; **Izv**, 27/5; **DJ**, 28/5, 14/6; **Investor's Business Daily**, 28/5; **X**, 28/5; **National Journal [Washington, D.C.]**, 29/5; **Lib**, 1/6; **China Daily**, 7/6; **Asia Week**, 11/6; **AFP**, 14/6, 17/6; **Hong Kong Standard**, 14/6)

- The fourth shipment of vitrified high-level nuclear waste processed in France, arrived at the Japanese port of Mutsu Ogawara on 15 April. The nuclear cargo vessel *Pacific Swan*, which carried the material in 40 canisters, went through the Panama Canal.

Two Japanese nuclear utilities are planning the joint transport of uranium and plutonium MOX fuel by sea from Belgium and the UK before year's end. As previously reported, it is the intention to transport the fuel in two specially refitted and armed British commercial vessels that will protect each other, but without the armed escort vessels called for by some American NGOs. Reportedly, one of the ships will carry fuel containing more than 220 kg of plutonium to the Takahama power station in Fukui, West Japan; the other will take a similar quantity to a power plant on the

East Coast. Environmental activists have threatened to take action against the shipment which, according to Greenpeace, is likely to leave Europe in early July. Plans for the transport were discussed with the US government, as the original source of the material. The US State Department has advised the Congress and Japan that the Administration's review had found no reason to object to the plan, which it found to satisfy all requirements of the US-Japan Cooperation Agreement.

(**Atoms in Japan**, March; **NNN**, 13/4, 15/4, 20/5, 21/5; **AP**, 15/4; **SF**, 10/5, 17/5; **China Daily**, 23/6. See also **Newsbrief** no. 45, page 20.)

- Authorities in **Kyrgyzstan** have reported arresting an Uzbek national who was trying to smuggle plutonium on a flight to the United Arab Emirates. No details were given about quantity or destination of the material. (**IT**, 21/5)
- The chief customs officer of the **Russian Federation** has said that in 1998 customs officials stopped several attempts to transport nuclear materials through the country. In some cases, reportedly, the material was shipped under diplomatic cover.

Russian authorities have reported having seized 6.7 metric tons of zirconium which was to have been smuggled to China in small batches, marked as stainless steel. The export of zirconium from Russia is forbidden.

An employee of a nuclear power station on the Kola Peninsula was arrested trying to steal oil-measuring equipment at the plant. The suspect had earlier taken a similar item from spare equipment but this time he tried to take it from the plant itself, which triggered the alert system and is said to have stopped operation of the reactor.

Following the publication of a report by the US National Research Council which, among other things, found that nuclear materials are stored in Russia at more locations than were earlier identified, and had concluded that the protection of Russia's nuclear material is worse than previously thought, MINATOM has said that its security measures meet and even exceed international standards.

Russia's State Duma has passed a law on the 'Development, Maintenance, Elimination, and the Assurance of the Safety of Nuclear Weapons', which creates the legal basis for the regulation of activities relating to nuclear weapons and their manufacture.

(**AP**, 27/1, 20/5; **IT**, 20/4, 20/5, 21/5)

- In **Ukraine**, police have arrested four Armenians who tried to sell 20 kg of low-enriched uranium, at a price of \$1.2 million. Reportedly, a seller and a buyer were first arrested in a sting operation during the sale of 2 kg of the material; upon disclosure by the former, another 18 kg were found buried in a garden. The material is said to have been taken from a processing plant at Krasnoyarsk. (**AP**, 21/5; **DP**, 22/5; **Fakti y Kommentarii** [Kiev], 22/5, in **BBC**, 24/5; **NW**, 27/5)

- A consignment of iridium, lost on the way from Boston to Mexico, turned up ten days after dispatch at a Federal Express warehouse at Stansted Airport in the **United Kingdom**. The highly radioactive material was contained in a 200 lb. lead cylinder. (**Yorkshire Post**, 28/4)
- The **United States'** magazine *Newsweek* has reported that more than 2.5 tons of plutonium could not be accounted for at American nuclear laboratories. As reported, half of the total is associated with a laboratory in Denver, Colorado. DoD has said that none of the material is actually missing and the situation is due to the methodology used in accounting for inventory. (**Newsweek**, 26/4)
- The latest annual report of the **United States** Department of Energy (DoE) says that no nuclear material is in imminent danger of theft or sabotage at any of DoE's twelve critical nuclear facilities. However, the report gave 'marginal' security ratings to Los Alamos and Lawrence Livermore National Laboratories and to the Department's transportation division. (**USA Today**, 31/3)
- The Vinca Institute of Nuclear Science near Belgrade, **Federal Republic of Yugoslavia**, reportedly has an inventory of nearly 60 kg of HEU enriched to 80 per cent, of which 10 kg are said to be slightly irradiated, and several kg of separated plutonium. The Vinca centre comprises a 6.5 MW heavy-water research reactor, a plutonium reprocessing facility, fuel fabrication equipment, and experimental uranium enrichment equipment. Yugoslavia is a party to the NPT and its nuclear material is under IAEA safeguards. During the conflict over Kosovo, US observers were said to worry that the Belgrade government might use nuclear material in a nuclear-weapons programme; David Albright, President of the Institute for Science and International Security (ISIS) in Washington, D.C., has claimed that the material would suffice for two implosion-type weapons and one nuclear gun-type device. Before the Kosovo conflict, the IAEA had last inspected the material in January. While reportedly dismissing the suggestion that Yugoslavia would try to make nuclear weapons, the IAEA has expressed concern about the physical security of the material and the radiological risk arising should the facility be hit from the air. The Yugoslav government is said to have asked the Agency on 26 April to make an inspection to allay any suspicions about the presence and the condition of the material. On 29 May, an air raid took place on targets near Vinca, but NATO has denied it had targeted or hit any part of the centre. On 3 and 4 June, the IAEA performed an inspection at Vinca, after which it confirmed, subject to completion of its analysis, that it did not find any indication that the status of the nuclear material at the facility had changed. In preparation for its inspection the IAEA had announced it would inform NATO in advance, so as to ensure the inspectors' safety; it had also notified the United Nations. The Yugoslav request and the fact that the IAEA felt an inspection was worth the risks involved are seen as important precedents.

Reportedly, during the air activity over Kosovo the Agency's Director General warned NATO's Secretary-General of the position of five nuclear power stations near routes followed by NATO aircraft, including stations in Slovenia and Bulgaria.

(**Boston Globe**, 19/4; **NYT**, 19/4; **ISIS Policy Paper**, 21/4; **IHT**, 6/5; **Australian**, 1/6; **NW**, 3/6; **IAEA Press Release PR 99/55**, 8/6)

k. Environmental Issues

- In the **Russian Federation** a large-scale programme for the safe management of radioactive waste is starting up with international assistance. Near Murmansk, a new processing plant for low-level liquid radioactive waste, which is a joint project of **Norway**, **Russia** and the **United States**, is scheduled to go into operation soon. The plant will have a capacity of 7,000 m³ a year. As a joint project of **Japan**, **Russia** and the **US**, the capacity of an existing plant is being upgraded from 1,200 to 5,000 m³ a year. These projects are coordinated by a Contact Expert Group (CEG), reportedly comprising **Belgium**, **Finland**, **France**, **Germany**, **Norway**, **Russia**, **Sweden**, the **UK**, the **US**, and the **European Union**, with **Japan** as an observer, set up to permit states providing bilateral assistance to **Russia** to exchange information, and to plan, coordinate, and prioritise projects. The CEG secretariat is funded for 60 per cent by the member states and for 40 per cent by the **IAEA**. Among the tasks of CEG, the most urgent is said to be the secure storage of spent fuel and radwaste from decommissioned submarines (most of which still contain fuel) and icebreakers, in floating vessels and on shore.

Japan is said to have offered **Russia** \$35 million to help dismantle 50 decommissioned submarines from its Pacific Fleet. Under this scheme, the two governments will conduct feasibility studies on the defuelling of decommissioned submarines, and the construction of storage facilities, both in Northern and Eastern **Russia**.

In early April, a trainload of spent naval fuel left for the Mayak reprocessing plant in **Siberia**. It was said to be the first trainload of the year, as against the ten annual trainloads which officials say are necessary to catch up with the increase in the amount of fuel removed from decommissioned submarines. As reported, the slowness with which irradiated fuel can be moved is due to a scarcity of up-to-date rolling stock and lack of funds. **Norway** is building four specialised rail cars which should be ready in the year 2000.

One priority project backed by **Norway** involves digging a trench around a spent fuel facility at Andreeva Bay, the largest and reportedly only operational storage facility for spent fuel from the Northern Fleet. The purpose is to stop radioactive substances seeping from the facility into the Lisa Fjord on the Kola Peninsula.

Norway is contributing \$200,000 to an international study on the feasibility of building a medium- and low-level waste repository on permafrost at Novaya Zemlya, although it is reported to be concerned about the environmental impact of such a repository, about 900 kilometres from its borders.

(**NEI**, April; **NW**, 8/4, 20/5; **AFP**, 21/4; **Bellona**, 30/4, 4/6; **IT**, 30/5)

- The Ministry of Atomic Energy (Minatom) of the **Russian Federation**, with the help of the government of the district of Sakha, is reported to work on restoring the natural environment in **Siberia** after twelve so-called peaceful nuclear explosions were carried out there in the period 1974–1987. Six of these explosions were to assist the flow of oil and gas; one to create an underground oil storage; one was staged to help build a dam; and four were made to probe the Earth's crust. (**NEI**, March)
- Two firms that contracted with the **United States** government for clean-up work at the Hanford nuclear reservation are being sued for having overcharged DoE a total of at least \$85 million. Reportedly, inflated labour costs were used as a basis for calculating pensions and other benefits, and general overhead. The case has been filed by an accountant and budget analyst and calls for \$2,400 million in damages. (**NYT**, 7/4)
- **Russia** and the **United States** have agreed on a plan to develop an interim dry storage facility for spent nuclear fuel from foreign countries on **Russian** territory. The Republic of **Korea**, **Switzerland** and **Taiwan** have already expressed interest in the scheme. **Russia** would bury the waste in concrete containers at a former military production site, possibly Krasnoyarsk-26, where the material would be stored for 40 years before final burial at a repository to be decided. A German/US company, Non-Proliferation Trust Inc. (NPT), has been set up for the purpose. Reportedly, DoE officials see this scheme as a good concept in principle, but it would require regulatory approval and legislative action in both countries. The proceeds of the venture are estimated at a minimum of \$4 billion, most of which would go to paying for the disposition of **Russian** warhead plutonium, cleaning up nuclear-weapon facilities and increased security of nuclear material removed from warheads. Environmental organisations in **Russia** are protesting against the scheme, which they maintain will add to the radioactive pollution of the country but it is thought likely that the Duma will approve it nevertheless. (**WSJ**, 20/4, 21/4; **IT**, 21/4; **NW**, 22/4; **Interfax News Agency**, 26/4, 27/4; **SF**, 26/4, 14/6; **NF**, 3/5; **Bellona**, 30/5, 1/6)

l. Miscellaneous

- On 1 April, the US Arms Control and Disarmament Agency (ACDA) ceased to exist; its staff, reportedly somewhat reduced, was absorbed into the US Department of State. ACDA's former Director, John Holum, has been nominated to be the first Under Secretary of State for Arms Control and International Security; his appointment needs the consent of the Senate. (**NYT**, 1/4; **direct information**)
- A **United States** defence official has denied a **Russian** report that, due to the current worsening of relations between the two states, their cooperation on the 'Y2K' millennium computer bug problem had been halted. (**R**, 19/4)

- South Korean and US officials have denied a newspaper report that Washington had lodged a protest with the Government of the **Republic of Korea** (RoK) about a possible violation by the latter of an undertaking not to develop missiles with a range of more than 110 miles (180 km). The US was said to have concluded that a South Korean missile launched on 10 April on Korea's Western coast had a range of at least 190 miles (300 km) although it may have flown less than 30 miles (50 km). The RoK has maintained that the flight did not violate any undertaking. According to the earlier report, South Korea maintains that the memorandum of understanding which contains the restriction on developing longer-range missiles expires at the end of the year, so that it is then free to work on a surface-to-surface missile, named *Hyeonmoo*, with a range of 190 miles, which would be able to strike most strategic targets in the DPRK. According to a subsequent report from Seoul, the RoK and the US have agreed that the limit on range and payload of commercial launch vehicles produced in the RoK should be dropped and that the US would consent to an extension of the range of military missiles to 188 miles. Apparently, however, there was no immediate agreement on the manner in which this understanding would be codified: the RoK seeks a simple letter of intent while the US insists on an official Memorandum of Understanding before the agreement can be implemented. The DPRK is said to have criticised the US for supporting the South's missile development programme, calling it a hostile act that could harm the US-DPRK missile talks.

(ChI, 19/4, 27/4; KH, 20/4; KT, 20/4; *People's Daily*, 20/4; JAI, 27/4)

- A senior official of the **Taiwan** Ministry of Foreign Affairs has claimed that a US State Department report on relations with Taiwan in the 1960s states that President Chiang Kai-shek had told American Secretary of State Dean Rusk that he was opposed in principal to the use of nuclear weapons. The official added that Taiwan's nuclear policy remained unchanged. (*Taiwan Central News Agency*, 4/6)

II. PPNN Activities

- On 6–8 June a workshop was held for senior government officials who had attended the 1999 session of the Preparatory Committee (PrepCom) for the 2000 NPT Review Conference. This was the latest in a series of annual meetings co-sponsored with the Center for Non-Proliferation Studies (CNS), Monterey Institute of International Studies, Monterey, USA, on the results of NPT Review Conferences and their PrepCom sessions.

The workshop opened with an after dinner key note address by David Fischer on the Role of the IAEA in Halting the Spread of Nuclear Weapons. The workshop itself consisted of three main sections and a short concluding session. Discussion in the main sections were guided by a list of issues/questions which had been distributed to participants. The first section, chaired by William Potter (CNS) was on **The 1999 PrepCom Session — Review and Analysis**. It was opened by brief statements from Ambassador Camilo Reyes

Rodriguez (Colombia), Ambassador Clive Pearson (New Zealand), Ambassador Ian Souter (United Kingdom) and Ambassador Li Changhe (China). William Potter and Ben Sanders acted as discussants. The second section on **The Implications of the 1999 PrepCom for the 2000 NPT Review Conference** was chaired by Ben Sanders; introductory comments were presented by Tom Markram (South Africa), Ambassador Grigori Berdennikov (Russian Federation), Darach Mac Fhionnbhairr (Ireland) and Michael Rosenthal (United States). John Simpson and Tariq Rauf made brief comments as discussants. Before the start of the third section, Ambassador Mark Moher (Canada) made a presentation on **The Nuclear Disarmament Agenda**. This section on **Challenges to the NPT Regime — Interpreting the 1995 Decisions and Resolution, South Asia, Middle East, Non-Compliance** was chaired by Ambassador Frank Majoor (The Netherlands) and initiated by short statements by Ambassador Hubert de la Fortelle (France), Ambassador Sirrous Nasser (Iran), Ambassador Akira Hayashi (Japan), Ambassador Makarim Wibisono (Indonesia) and Penny Burt (Australia). Lawrence Scheinman and Sola Ogunbanwo acted as discussants for this section. In the **Concluding Session** remarks were made by William Potter and Ben Sanders.

- PPNN plans to hold its next (26th) semi-annual Core Group meeting in Lillehammer, Norway, on 9 to 12 December. The Core Group meeting will be combined with a seminar for government officials and researchers on **The Tough Challenges Facing the Nuclear Non-Proliferation Regime**. The 27th Core Group meeting is planned to be held in conjunction with a briefing seminar for delegates to the 2000 NPT Review Conference, at the Chauncey Conference Center, Princeton, New Jersey, on 9–12 March 2000.
- At the 1999 PrepCom Session in New York, PPNN distributed copies of the revised and updated versions for **Volume I and Volume II** of the **PPNN Briefing Book**. In addition, two newly-published **Issue Reviews, No. 15: Why the 1999 Preparatory Committee Session for the 2000 NPT Review Conference is so Crucial for the Strengthened Review Process** by Emily Bailey and John Simpson; and **No. 16: Engaging Non-NPT Parties in the Nuclear Non-Proliferation Regime** by Lawrence Scheinman, were made available to delegates along with past PPNN publications.

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IV. Documentation

- a. **Washington Summit Communiqué — Issued by the Heads of State and Government participating in the meeting of the North Atlantic Council in Washington, D.C. on 24 April 1999 [extract]**

An Alliance for the 21st Century

30. The proliferation of nuclear, biological and chemical (NBC) weapons and their means of delivery can pose a direct military threat to Allies' populations, territory, and forces and therefore continues to be a matter of serious concern for the Alliance. The principal non-proliferation goal of the Alliance and its members is to prevent proliferation from occurring, or, should it occur, to

reverse it through diplomatic means. We reiterate our full support for the international non-proliferation regimes and their strengthening. We recognise progress made in this regard. In order to respond to the risks to Alliance security posed by the spread of weapons of mass destruction (WMD) and their delivery means, we have launched an Initiative that builds upon work since the Brussels Summit to improve overall Alliance political and military efforts in this area.

31. The WMD Initiative will: ensure a more vigorous, structured debate at NATO leading to strengthened common understanding among Allies on WMD issues and how to respond to them; improve the quality and quantity of intelligence and information-sharing among Allies on proliferation issues; support the development of a public information strategy by Allies to increase awareness of proliferation issues and Allies' efforts to support non-proliferation efforts; enhance existing Allied programmes which increase military readiness to operate in a WMD environment and to counter WMD threats; strengthen the process of information exchange about Allies' national programmes of bilateral WMD destruction and assistance; enhance the possibilities for Allies to assist one another in the protection of their civil populations against WMD risks; and create a WMD Centre within the International Staff at NATO to support these efforts. The WMD initiative will integrate political and military aspects of Alliance work in responding to proliferation.
32. Arms control, disarmament and non-proliferation will continue to play a major role in the achievement of the Alliance's security objectives. NATO has a long-standing commitment in this area. Allied forces, both conventional and nuclear, have been significantly reduced since the end of the Cold War as part of the changed security environment. All Allies are States Parties to the central treaties related to disarmament and non-proliferation of weapons of mass destruction, the Nuclear Non-Proliferation Treaty, the Biological and Toxin Weapons Convention and the Chemical Weapons Convention, and are committed to the full implementation of these treaties. NATO is a defensive Alliance seeking to enhance security and stability at the minimum level of forces consistent with the requirements for the full range of Alliance missions. As part of its broad approach to security, NATO actively supports arms control and disarmament, both conventional and nuclear, and pursues its approach against the proliferation of weapons of mass destruction and their delivery means. In the light of overall strategic developments and the reduced salience of nuclear weapons, the Alliance will consider options for confidence and security building measures, verification, non-proliferation and arms control and disarmament. The Council in Permanent Session will propose a process to Ministers in December for considering such options. The responsible NATO bodies would accomplish this. We support deepening consultations with Russia in these and other areas in the Permanent Joint Council as well as with Ukraine in the NATO-Ukraine Commission and with other Partners in the EAPC.

.....

34. We call on Russia to ratify the START II Treaty without delay. This would pave the way for considerable reductions of nuclear arsenals and would allow negotiations on a START III Treaty aiming at further far-reaching reductions. We remain committed to an early entry into force of the Comprehensive Test Ban Treaty, and call upon all countries to accede to and implement the Treaty in due course. We support the early commencement of negotiations on a Fissile Material Cut-Off Treaty.

b. The Alliance's Strategic Concept — Approved by the Heads of State and Government participating in the meeting of the North Atlantic Council in Washington, D.C. on 23 and 24 April 1999 [extract]

Introduction

1. At their Summit meeting in Washington in April 1999, NATO Heads of State and Government approved the Alliance's new Strategic Concept. ...

Characteristics of Nuclear Forces

62. The fundamental purpose of the nuclear forces of the Allies is political: to preserve peace and prevent coercion and any kind of war. They will continue to fulfil an essential role by ensuring uncertainty in the mind of any aggressor about the nature of the Allies' response to military aggression. They demonstrate that aggression of any kind is not a rational option. The supreme guarantee of the security of the Allies is provided by the strategic nuclear forces of the Alliance, particularly those of the United States; the independent nuclear forces of the United Kingdom and France, which have a deterrent role of their own, contribute to the overall deterrence and security of the Allies.
63. A credible Alliance nuclear posture and the demonstration of Alliance solidarity and common commitment to war prevention continue to require widespread participation by European Allies involved in collective defence planning in nuclear roles, in peacetime basing of nuclear forces on their territory and in command, control and consultation arrangements. Nuclear forces based in Europe and committed to NATO provide an essential political and military link between the European and the North American members of the Alliance. The Alliance will therefore maintain adequate nuclear forces in Europe. These forces need to have the necessary characteristics and appropriate flexibility and survivability, to be perceived as a credible and effective element of the Allies' strategy in preventing war. They will be maintained at the minimum level sufficient to preserve peace and stability.
64. The Allies concerned consider that, with the radical changes in the security situation, including reduced conventional force levels in Europe and increased reaction times, NATO's ability to defuse a crisis through diplomatic and other means or, should it be necessary, to mount a successful conventional defence has significantly improved. The circumstances in which any use of nuclear weapons might have to be contemplated by them are therefore extremely remote. Since 1991, therefore, the Allies have taken a series of steps which reflect the post-Cold War security environment. These include a dramatic reduction of the types and numbers of NATO's sub-strategic forces including the elimination of all nuclear artillery and ground-launched short-range nuclear missiles; a significant relaxation of the readiness criteria for nuclear-rolled forces; and the termination of standing peacetime nuclear contingency plans. NATO's nuclear forces no longer target any country. Nonetheless, NATO will maintain, at the minimum level consistent with the prevailing security environment, adequate sub-strategic forces based in Europe which will provide an essential link with strategic nuclear forces reinforcing the transatlantic link. These will consist of dual capable aircraft and a small number of United Kingdom Trident warheads. Sub-strategic nuclear weapons will, however, not be deployed in normal circumstances on surface vessels and attack submarines.

Part V — Conclusion

65. As the North Atlantic Alliance enters its sixth decade, it must be ready to meet the challenges and opportunities of

a new century. The Strategic Concept reaffirms the enduring purpose of the Alliance and sets out its fundamental security tasks. It enables a transformed NATO to contribute to the evolving security environment, supporting security and stability with the strength of its shared commitment to democracy and the peaceful resolution of disputes. The Strategic Concept will govern the Alliance's security and defence policy, its operational concepts, its conventional and nuclear force posture and its collective defence arrangements, and will be kept under review in the light of the evolving security environment. In an uncertain world the need for effective defence remains, but in reaffirming this commitment the Alliance will also continue making full use of every opportunity to help build an undivided continent by promoting and fostering the vision of a Europe whole and free.

c. Joint Statement Between the United States and the Russian Federation Concerning Strategic Offensive And Defensive Arms and Further Strengthening of Stability, 20 June 1999

Confirming their dedication to the cause of strengthening strategic stability and international security, stressing the importance of further reduction of strategic offensive arms, and recognizing the fundamental importance of the Treaty on the Limitation of Anti-Ballistic Missile Systems (ABM Treaty) for the attainment of these goals, the United States of America and the Russian Federation declare their determination to continue efforts directed at achieving meaningful results in these areas.

The two governments believe that strategic stability can be strengthened only if there is compliance with existing agreements between the Parties on limitation and reduction of arms. The two governments will do everything in their power to facilitate the successful completion of the START II ratification processes in both countries.

The two governments reaffirm their readiness, expressed in Helsinki in March 1997, to conduct new negotiations on strategic offensive arms aimed at further reducing for each side the level of strategic nuclear warheads, elaborating measures of transparency concerning existing strategic nuclear warheads and their elimination, as well as other agreed technical and organizational measures in order to contribute to the irreversibility of deep reductions including prevention of a rapid build-up in the numbers of warheads and to contribute through all this to the strengthening of strategic stability in the world. The two governments will strive to accomplish the important task of achieving results in these negotiations as early as possible.

Proceeding from the fundamental significance of the ABM Treaty for further reductions in strategic offensive arms, and from the need to maintain the strategic balance between the United States of America and the Russian Federation, the Parties reaffirm their commitment to the Treaty, which is a cornerstone of strategic stability, and to continuing efforts to strengthen the Treaty, to enhance its viability and effectiveness in the future.

The United States of America and the Russian Federation, recalling their concern about the proliferation in the world of weapons of mass destruction and their means of delivery, including missiles and missile technologies, expressed by them in the Joint Statement on Common Security Challenges at the Threshold of the Twenty First Century, adopted on September 2, 1998 in Moscow, stress their common desire to reverse that process using to this end the existing and possible new international legal mechanisms.

In this regard, both Parties affirm their existing obligations under Article XIII of the ABM Treaty to consider possible changes in the strategic situation that have a bearing on the ABM Treaty and, as appropriate, possible proposals for further increasing the viability of this Treaty.

The Parties emphasize that the package of agreements signed on September 26, 1997 in New York is important under present conditions for the effectiveness of the ABM Treaty, and they will facilitate the earliest possible ratification and entry into force of those agreements.

The implementation of measures to exchange data on missile launches and on early warning and to set up an appropriate joint center, recorded in the Joint Statement by the Presidents of the United States of America and the Russian Federation signed September 2, 1998 in Moscow, will also promote the strengthening of strategic stability.

Discussions on START III and the ABM Treaty will begin later this summer. The two governments express their confidence that implementation of this Joint Statement will be a new significant step to enhance strategic stability and the security of both nations.

d. US Department of Defense Press Release No. 307-99, 'United States and Russia Extend Nunn-Lugar Cooperative Threat Reduction Agreement', 24 June 1999

The United States and the Russian Federation signed a protocol to continue the Cooperative Threat Reduction (CTR) program in Russia through June 2006. The protocol, to the 'Agreement between the Russian Federation and the United States of America concerning the Safe and Secure Transportation, Storage and Destruction of Weapons and the Prevention of Weapons Proliferation,' also referred to as the CTR Umbrella Agreement for Russia, was signed on June 15-16, 1999. The protocol extends the legal framework for the CTR program in Russia for an additional seven years.

Through the CTR program, also known as the Nunn-Lugar program, after its primary congressional sponsors, Sen. Richard Lugar and former Sen. Sam Nunn, the Department of Defense provides equipment, services and technical support to assist Russia and other newly independent states in preventing proliferation and securing and dismantling weapons of mass destruction, related materials and production facilities inherited from the former Soviet Union.

By extending the Umbrella Agreement, the United States and Russia will be able to continue CTR efforts to reduce weapons of mass destruction and prevent their proliferation. Important current projects include:

- Accelerating elimination of Russian missiles, bombers, submarines and land-based missile launchers to assist Russia in meeting Strategic Arms Reduction Treaty requirements.
- Enhancing the safety, security, control, and accounting of nuclear warheads in transport and at all of Russia's nuclear weapons storage sites.
- Ending Russia's production of weapons-grade plutonium.
- Constructing a facility for the storage of nuclear material for up to 12,500 dismantled nuclear warheads.
- Assisting Russia to implement the Chemical Weapons Convention by dismantling former chemical weapons production facilities and helping to destroy chemical weapons.

Through fiscal 1999, Congress has provided a total of \$2.7 billion for CTR programs. Of the amount, \$1.7 billion has been dedicated to efforts in Russia.

Below are some of the past and expected future accomplishments of CTR efforts in Russia: CTR assistance has helped Russia eliminate 50 missile silos. In the future, CTR will allow Russia to eliminate an additional 349 silos. CTR assistance has helped Russia eliminate 284 land and submarine-based strategic ballistic missiles. In the future CTR will help Russia eliminate another 1,429 such missiles. CTR is helping to dismantle approximately 30 strategic ballistic missile submarines. CTR has supported the elimination of more than 40 heavy bombers. CTR is providing security enhancements for 50 Russian nuclear weapons storage sites and will enhance the security at 73 more sites in the future.

V. Comments from Readers/Corrections

1. The following communication has been received from the Arms Control and Disarmament Division, Ministry of Foreign Affairs, Tokyo:

Your Newsbrief (1st Quarter 1999) reported that 'Representatives of the Group of Eight (the G-7 and Russia), reinforced by Argentina, Australia, Brazil, Ukraine, and South Korea, have agreed to resume multilateral aid to India, but Tokyo has said that it will expand the present scope of its lending only once India has actually signed the Treaty'. This reference must be drawn from inaccurate news articles; the meeting was not designed to make decision on multilateral aid to India, changing the position of the Group of Eight on this matter that was made clear at their Foreign Ministerial meeting of last June.

At the meeting among Argentina, Brazil, Canada, China, France, Germany, Italy, Japan, Republic of Korea, Russia, Ukraine, United Kingdom, United States plus the European Commission, that was held on 11 February, senior officials noted with appreciation that India and Pakistan had made some positive statements in the field of nuclear non-proliferation after their nuclear tests: inter alia, their commitments not to conduct further nuclear tests and to adhere to the CTBT; to participate constructively in negotiations in the Conference on Disarmament for a Fissile Material Cut-Off Treaty; and not to export equipment, material and technology that could contribute to weapons of mass destruction or missiles for their delivery.

At the same time, the meeting called upon India and Pakistan to take further positive and concrete steps to bring their commitments into practice and to fulfil the provisions of Security Council Resolution 1172.

In particular, they reiterated the importance of India and Pakistan signing and ratifying the Comprehensive Test Ban Treaty of September 1999, so as to secure ratification of all the key states required for the entry into force of the CTBT.

2. The editor's attention has been drawn to the fact that the reference, in Newsbrief no. 45, page 19, to a report in *Nucleonics Week*, that the Republic of Korea had run a research programme to develop a clandestine nuclear-weapons capability, is so formulated as to create the impression that these activities were currently going on. The editor has been assured that this is incorrect.

3. The following was received from Alan P. Marks, Director, MST Consultants Pty Ltd:

Newsbrief no. 45 stated on page 20 that '[p]resent Australian law prohibits the importation of nuclear waste'. Strictly speaking, this is a misconception, since Australian law also 'prohibits' the export of uranium, and clearly uranium is exported from Australia. Under Australia's Federal Constitution, control of exports and imports is vested in the Federal Government. For example, uranium is listed as a prohibited export in regulations made under the Federal Customs Act. Such regulations are normally made (and may be amended) by the responsible Minister, who then has the power to permit the export to take place under prescribed conditions. Similarly, radioactive substances are routinely imported into Australia on the basis of certification by a nominated authority. The granting of mineral rights, mining leases and the detailed approval of mining operations, however, rests with State Governments. For the past 25 years the latter have been inhibited from freely approving new uranium mines in the face of the Federal power to withhold export approval. This power was used by the Hawke and Keating ALP Governments to impose the notorious three mines policy, a policy dictated by the Party and not in any sense the result of a legislative instrument.

In late 1998, new Federal legislation came into force: the Australian Radiation Protection and Nuclear Safety Act (ARPANSA) provides regulatory controls applicable to all Federal agencies and includes the issuing of licences to possess and handle radioactive material and the implementation of certain international obligations under Treaties such as NPT. ARPANSA does not apply to State Governments or their agencies, although the legislation is intended to promote similar regulations and standards to these bodies as well. The present Government does not have a majority in the Senate, and to secure the support of minor parties for this legislation was forced to incorporate prohibitions on certain nuclear installations. These comprise fuel fabrication, nuclear power, enrichment and reprocessing plants or facilities, and the agency responsible for administering ARPANSA is prohibited from issuing a licence for any of these facilities. There is no specific reference to a facility for storing or disposing of nuclear or radioactive waste, other than the general provisions for permitting and licensing applicable to all equipment and facilities involving radioactive and/or nuclear materials. Hence, under present circumstances, the importation of nuclear waste would be entirely dependent on a political decision at the Federal level and not on any requirement to amend legislation.

ANNEX — Abbreviations of Sources

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

The Programme for Promoting Nuclear Non-Proliferation and the Newsbrief

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