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Programme for Promoting Nuclear Non-Proliferation, Newsbrief, Number 50

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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 2000

Editorial Note

Issue 49 of the Newsbrief carried the announcement that this publication might soon cease to exist.

The Newsbrief of the Programme for Promoting Nuclear Non-Proliferation (PPNN) has been published every three months for the past thirteen years. It has presented information about the spread of nuclear weapons and their means of delivery, and about moves to deter that spread, as well as about relevant developments regarding the peaceful uses of nuclear energy. As far as can now be foreseen, this fiftieth issue may well be the last but one, since, as matters stand at present, PPNN's resources can only cover the production of one more issue.

When it started, in early 1987, the Newsbrief had a print-run of 500 copies; currently 3,500 copies are produced each quarter. About 2,500 of these are distributed free of charge to readers in more than 150 countries; the remainder are made available at various meetings and international conferences. The Newsbrief is also distributed electronically, and is accessible on the Web. Thus, PPNN's Newsbrief has become one of the Programme's major products.

One way of enabling the Newsbrief to go on would be to adopt a subscription system. However, PPNN does not have the facilities to administer such a system, and it would not be cost-effective to create one for just that purpose. Moreover, it lacks the financial means to bridge the time involved in setting up a subscription system, and it is not likely that enough subscribers could be found right away to cover the cost of the enterprise. Limiting distribution to electronic means would bring some savings, but printing and distribution of hard copies are relatively minor items among total costs.

We are currently engaged in seeking sources of further funding. If those cannot be found soon, the Newsbrief will have to stop publication with the appearance, in early October, of issue number 51, covering the third quarter of this year.

The present issue covers the period 1 April to 30 June. Unless otherwise indicated, dates (day/month) refer to 2000. Where reference is made to an uninterrupted series of items from a daily newspaper or a news agency, only the first and last dates of the series are noted. For example, "18-25/06" following the name or symbol of a particular publication means that use has been made of items appearing there on each day from 18 to 25 June 2000. Names of publications that are referred to often are abbreviated; a list is given on the back page.

PPNN's Executive Chairman, Ben Sanders, is editor of the **Newsbrief**. 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 sixth Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons to review the operation of the Treaty (2000 Review Conference), was held at United Nations headquarters in New York, from 24 April until 19 May. It was attended by representatives of 155 states parties to the Treaty (out of the total of 187 parties), and by observers on behalf of Cuba and the Palestine Liberation Organization.

This was the third NPT Review Conference which succeeded in adopting by consensus a Final Declaration. The last time this occurred had been in 1985; that event prompted the establishment of PPNN.

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During the Review Conference the editor served on his national (the Netherlands) delegation. In order to avoid any conflict of interest, the following summary of events is based on text contributed by Rebecca Johnson, Executive Director of the Acronym Institute of London, and Executive Editor of its journal *Disarmament Diplomacy*, whom the editor of the *Newsbrief* owes a large debt of gratitude. As for the *Newsbrief* as a whole, its editor takes responsibility for the contents of this summary.

The Preparatory Committee (PrepCom) for the Review Conference of the NPT, in which a total of 158 States Parties participated, had met three times, in 1997, 1998 and 1999. In the course of its three sessions, the PrepCom had adopted the procedural decisions needed to enable the Review Conference to proceed, but it had not been able to agree on the substantive recommendations it was supposed to adopt pursuant to Decision I on Strengthening the Review Process, of the 1995 NPT Review and Extension Conference. Procedural decisions adopted dealt with, *inter alia*, participation, languages, financing, the provisional agenda, the draft rules of procedure, and the background documents to be prepared for the Conference.

Settlement of the two last-mentioned items had involved considerable effort. At the second PrepCom session, South Africa, supported by other non-aligned countries, had sought to have Rule 34 make specific mention of "subsidiary bodies". Egypt had proposed the inclusion of a reference to a subsidiary body to deal with the 1995 Resolution on the Middle East. Russia and the US insisted on retaining the reference in Rule 34 to "working groups"; after intersessional consultations they accepted the South African amendment, thus enabling the adoption at the third session, in 1999, of the draft rules of procedure.

With respect to background documentation, there had been disagreement between Egypt, which had called for documentation on the implementation of the 1995 Resolution on the Middle East, and the US. The issue was settled at the third session with the agreement to ask the UN Secretariat to provide, among other papers, documentation on the implementation of the Resolution on the Middle East "reflecting developments since 1995 with a view to realising fully the objectives of the resolution". Discussions at the third session on the question of 'products' for the Review Conference, particularly the number and type of documents it should seek to adopt, were inconclusive; there was widespread support for having a '2000 Principles and Objectives' paper agreed in addition to the final review document.

The 2000 Review Conference was opened on 24 April by the Chairman of the third session of the PrepCom, Ambassador Camilo Reyes of Colombia. Ambassador Abdallah Baali of Algeria was unanimously elected President. Mrs. Hannelore Hoppe, Chief, Weapons of Mass Destruction Branch, Department for Disarmament Affairs, was confirmed as Secretary-General of the Conference. The Chairmen of the Committees were elected as follows: Main Committee I (disarmament, including security assurances): Camilo Reyes of Colombia; Main Committee II (safeguards and nuclear-weapon-free zones): Adam Kobieracki of Poland; Main Committee III (peaceful uses): Markku Reimaa of Finland; Drafting Committee: André Erdős of Hungary; Credentials Committee: Makmur Widodo of Indonesia.

A major potential problem was settled at the outset of the Conference, with the adoption of the President's proposal – following consultations before the opening – to have two subsidiary bodies, open to all delegations. These would hold four meetings each in closed session, and report to their respective Main Committees. Subsidiary body 1, chaired by Clive Pearson (New Zealand), was set up under Main Committee I to "discuss and consider the practical steps for systematic and progressive efforts to implement article VI [of the NPT] and paragraphs 3 and 4 (c) of the 1995 decision on Principles and Objectives for Nuclear Non-Proliferation and Disarmament". Subsidiary body 2, chaired by Christopher Westdal (Canada), was set up under Main Committee II, to address "regional issues, including with respect to the Middle East and implementation of the 1995 Middle East resolution".

The opening session was addressed by UN Secretary-General, Kofi Annan, who reminded participants that "the proliferation of weapons of mass destruction, including nuclear weapons, remains a major threat to peace". He referred to some of the regime's major challenges and said that the challenge for the NPT Parties was to "embark on a process that will ensure the full implementation of all of the provisions of the Treaty by all of the States Parties". The Director General of the International Atomic Energy Agency (IAEA), Mohamed ElBaradei, also spoke at the opening session, stressing the importance of safeguards and verification and summarising some of the problems, challenges and developments in the IAEA's work.

During the general debate, which took six days, 93 states parties made statements. More than 20 countries were represented at ministerial level. Ireland, Mexico, Norway, the Russian Federation, Sweden, several Eastern European countries had sent Foreign Ministers; the United States was represented by its Secretary of State. Many statements referred to the regime's challenges, such as the nuclear tests by India and Pakistan; the thousands of nuclear weapons still on hair-trigger alert; the issue of tactical nuclear forces; the re-affirmation of nuclear doctrines, including retention of the first-use option by some of the nuclear-weapon states; and the potential deployment of a US national missile defence (NMD) that was liable to jeopardise the ABM Treaty. Concern was expressed over the failure by Iraq and the Democratic People's Republic of Korea (DPRK) to comply fully with their Treaty obligations, and a number of delegations highlighted Israel's unsafeguarded nuclear programme. The objectives of early entry into force of the Comprehensive Test Ban Treaty (CTBT) and of the conclusion by the Conference on Disarmament (CD) of a ban on the production of fissile materials for nuclear weapons (FMCT) were endorsed. There was frequent mention of the rejection of the CTBT by the US Senate. On behalf of the seven-nation 'New Agenda Coalition' of Brazil, Egypt, Ireland, Mexico, New Zealand, South Africa and Sweden, the Foreign Minister of Mexico put forward a working paper on nuclear disarmament based on the New Agenda resolution to the United Nations (UNGA resolution 54/54G). Indonesia submitted a comprehensive working paper from the 109-member Group of States members of the Movement of Non-Aligned Countries parties to the NPT (NAM).

Early in the second week of the Conference, the five nuclear-weapon states (NWSs) issued a joint statement. Among other things, the 23-paragraph paper welcomed the

indefinite extension of the NPT and reaffirmed the commitment of the NWSs to all the decisions adopted in 1995, including the resolution on the Middle East; it called for India and Pakistan to undertake the measures of UN Security Council resolution 1172, which had been adopted shortly after the May 1998 nuclear tests, and underlined that these states did not have the status of nuclear-weapon states under the NPT. It further stressed the importance of securing the early entry into force of the CTBT; urged the CD to agree on a programme of work including the commencement and early conclusion of FMCT negotiations; declared that none of their nuclear weapons were targeted at any state; welcomed the ratification of START II by the Russian Federation and looked forward to the conclusion of START III, while "preserving and strengthening the Anti-Ballistic Missile Treaty as a cornerstone of strategic stability and as a basis for further reductions of strategic offensive weapons".

Many delegates found the statement disappointingly vague with regard to NWS commitments, and less positive than statements that had been made on former occasions. Others pointed out that this was the first meaningful joint statement by all nuclear-weapon states at a Review Conference and said that even if it was not as substantial as might have been hoped, the fact that the nuclear-weapon states had set aside current differences in order to agree on a joint text was a welcome indication of the importance they attached to the NPT.

Halfway through the first week and in parallel with the general debate, the three Main Committees had begun their review of the operation of the Treaty. The two subsidiary bodies held their four open-ended meetings during weeks two and three, in time allocated to Main Committees I and II.

In Main Committee I, the nuclear-weapon states presented reports on their respective actions and activities in compliance with Article VI. This Committee decided to focus on the review part of its work, while its subsidiary body, given its mandate, would look forward. A number of working papers laid the basis for discussions in both Main Committee I and subsidiary body I; these came notably from the New Agenda Coalition (NAC); the European Union (EU); five NATO countries (Belgium; Germany; Italy; Netherlands and Norway), which were eventually joined by Finland, Spain, Denmark and at times by Sweden; the Non-Aligned Movement (NAM); Myanmar; Malaysia; and a joint Japanese-Australia paper.

In considering Articles I and II, Main Committee I emphasised the importance of full implementation, but despite the positions put forward in the NAM working paper, which called for the nuclear-weapon states to refrain from nuclear sharing for military purposes "under any kind of security arrangements", the disagreements were less sharp than expected. Strong language was agreed on regarding the nuclear tests by India and Pakistan but there were, as usual, wide differences of view over the implementation of Article VI. The disagreements pertained to the role of the 1996 advisory opinion of the International Court of Justice; subcritical underground and laboratory testing, supposedly permitted under the CTBT, which could be used to modernise nuclear weapons; and progress in the implementation of the Article since 1995. Some states stressed how much remained to be done and referred to the Secretary-General's mention of the more than 35,000

nuclear weapons remaining in the arsenals, whereas the nuclear-weapon states wanted the steps taken since 1995 to be acknowledged and welcomed. There also was disagreement over the FMCT; most delegations wanted to reaffirm and strengthen the commitment of 1995 to negotiate but China insisted that the CD should first adopt a programme of work that would include besides FMCT, outer space issues and nuclear disarmament. Having achieved text to this effect in the NWS statement, China refused to accept anything less conditional in Main Committee I language. With regard to Article VII and the security of non-nuclear-weapon states, the US and some of its allies held that proposed paragraphs evoking the UN Charter were inappropriate. They also opposed calls for a legally binding negative security assurances regime.

To address practical steps on nuclear disarmament, subsidiary body 1 divided its work into two: cluster 1 considered 'unfinished business', such as the START process, CTBT, FMCT and further efforts by the nuclear-weapon states to reduce nuclear arsenals unilaterally; cluster 2 took elements from various working papers, and addressed irreversibility, transparency, non-strategic nuclear weapons, de-targeting, de-alerting and de-activating nuclear weapons systems; a diminishing role for nuclear weapons in security doctrines; and the engagement of all nuclear-weapon states in the process of nuclear disarmament. Chairman Pearson's first working paper also reproduced the demand from the NAC, for "an unequivocal undertaking by the nuclear-weapon states to accomplish the total elimination of their nuclear arsenals and, in the forthcoming NPT review period 2000-2005, to engage in an accelerated process of negotiations..."

Main Committee II reflected strong support for the IAEA, including the strengthened safeguards as laid down in the Additional Protocol to the standard NPT safeguards agreements. A group of Western states proposed that the "full-scope safeguards" required as a condition of nuclear export should be understood as meaning safeguards applied pursuant to the Additional Protocol. There were various disagreements over the issue of dealing with allegations of non-compliance and the relation between the responsibilities of the IAEA and the United Nations organs in dealing with compliance issues. There were calls to replace current voluntary offers by nuclear-weapon states to submit peaceful nuclear activities to safeguards by an obligation to do so. Many speakers also wished to see the voluntary nature of submitting fissile materials designated as no longer required for military purposes to IAEA safeguards to become a duty of the nuclear-weapon states. The discussions on all aspects of nuclear export controls proved contentious. Issues discussed included restrictions on the export of dual-use items; the function of the Zangger Committee; moves to make the work of the Nuclear Suppliers Group more transparent; the question of exports to states not party to the Treaty; and proposals requiring the weapon states not to enter into any kind of nuclear technical cooperation and assistance with such states. In the discussion about nuclear-weapon-free zones, the main areas of disagreement regarding the Middle East were remitted to subsidiary body 2 together with the issue of Iraq's compliance with its safeguards obligations, insisted on by the US. A proposal by Belarus supported by Russia on a Central and Eastern European Nuclear-Weapon-Free Zone was opposed by 15 other states from the region and did not get resolved until the last hours of the Conference.

Subsidiary body 2 dealt mainly with South Asia and the Middle East. Egypt and the League of Arab States insisted that Israel be named as the one state in the region not to have acceded to the NPT. The US agreed, on condition that Iraq was named as non-compliant with the Treaty. Some states opposed references to the Middle East peace process, and Arab states wanted to avoid mentioning that states from the region had not yet concluded their safeguards agreements or additional protocols with the IAEA. There was disagreement over the US proposal to quote the IAEA Director-General's letter to the UN Security Council on the status of Iraq's compliance with the NPT and Security Council resolutions. Egypt proposed follow-up work on the Middle East Resolution for the period 2000–2005, with a special representative/envoy, a committee, or the three depositary states, pursuing discussions with Israel regarding its accession to the NPT. This was opposed by the US, France and others, *inter alia*, because this would establish a precedent for intersessional work.

With regard to South Asia, disagreement about the way the tests should be referred to was resolved by incorporating wording from the NWS statement, which called on India and Pakistan to implement UN Security Council resolution 1172 and emphasised that the nuclear tests did not confer nuclear-weapon state status. There was little controversy over proposals urging both countries to accede to the NPT and CTBT, maintain the testing moratorium and undertake a moratorium on fissile material production for weapons, and to strengthen their non-proliferation export controls. In the absence of the DPRK from the Review Conference, a proposal by South Korea to include a paragraph expressing concern that the IAEA was unable to verify that no nuclear material had been diverted for weapons purposes was adopted with little discussion.

Main Committee III heard many statements reaffirming the right to research, produce and use nuclear energy for non-military purposes. Like China and Iran, a number of non-aligned countries stressed the need for unrestricted transfers of technology and better cooperation and technical assistance in accordance with Article IV of the Treaty. Attempts to link nuclear energy with sustainable development ran into opposition. A number of countries, including Austria, Denmark, Germany, Ireland and New Zealand, denied that nuclear power generation could contribute to sustainable development. They also resisted the inclusion of references to nuclear energy as a more environment-friendly power source than fossil fuels. Other contentious issues were the safety and trans-shipment of radioactive materials and waste. In this connection, many delegations, including those from the Caribbean Community (CARICOM), Ireland, a number of Latin American countries, New Zealand, and the South Pacific Group (SOPAC) strongly disagreed with France, Japan and the UK. The former raised demands for prior notification of shipments and for more comprehensive liability and compensation arrangements in the event of nuclear accidents. The question of transparency and export controls, raised primarily in Main Committee II, was also asserted in Main Committee III.

On 5 May, the President called a closed plenary meeting to discuss strengthening the review process. Twenty-two delegations spoke on this subject. There was wide agreement that the 1995 decisions needed to be built on and revitalised, rather than dropped or replaced. The idea that the sessions of the PrepCom should focus primarily on

substantive issues and that procedural preparations should be left for the last session was strongly endorsed. Many delegations argued in favour of holding four PrepCom sessions, but this was resisted by France, the UK and the US. There was interest among non-nuclear-weapon states in Ireland's proposal for four-day annual conferences of states parties, serviced by a small secretariat, instead of having three ten-day PrepCom meetings. Nigeria's concept of an NPT 'Management Board' also gained some support but there was resistance, especially from major Western states, to the establishment of a standing secretariat. A proposal to make consideration of contemporary international events a regular component of the activities of the PrepCom was resisted in the first place by the US.

There were some differences as to how PrepCom meetings should deal with substantive issues and should report on its work. Canada and Japan wanted the meetings to reflect their discussions in a Chairman's summary. Norway and the Netherlands wanted the Review Conference to adopt a Programme of Action containing a number of specific points to implement the NPT in the next five years. To this end they wanted each session of the PrepCom to have three components, one part focusing on specific issues in the Programme of Action; one part dealing with developments affecting the operation and purpose of the NPT; and one part reviewing its operation. Each session would have a specific agenda determined in advance. Myanmar wanted subsidiary bodies, both for the preparatory meetings and for the Review Conferences. The US suggested that the first two PrepCom meetings could consider specific issues, exchange information and receive proposals, and the third could seek to elaborate consensus recommendations to the Review Conference. There were a range of proposals for regularising and increasing participation by non-governmental organizations (NGOs). Canada wanted to enhance participation and access to NGOs deemed by the Department for Disarmament Affairs to have a track record of work in non-proliferation and disarmament. Mexico wanted to go further, proposing that NGOs be invited to participate in the meetings as observers.

Using the least controversial elements from among these proposals, the President, in the third week, presented his own paper on 'Improving the effectiveness of the strengthened review process for the NPT'. At first, some delegations expressed concern that this proposal did not go far enough beyond the 1995 decisions, but as attention moved to finalising the substantive differences in the draft review document, few were prepared to risk the outcome by arguing about the review process, and so a slightly amended version of Baali's draft was attached at the end of the Final Declaration. This reaffirmed the 1995 decisions, with regard to the number of PrepComs. It incorporated the US proposal for the first two sessions to consider substance, with the third (or fourth, if necessary) session producing a consensus report containing recommendations for the Review Conference and making procedural arrangements. To ensure continuity between the various sessions, the early meetings would provide a factual summary for the next session. Baali did not widen NGO participation, as some had wanted, but formalised the ad hoc arrangement begun in 1997 of allocating a meeting for NGOs to address each session of the PrepCom and the Review Conference.

By the end of the second week, the three Main Committees and the subsidiary bodies had produced skeleton draft reports. A week later, the President received draft reports

from the three Main Committees, which included language from the subsidiary bodies on disarmament and regional issues. Main Committee III had eight paragraphs still in dispute, principally on trans-shipment of radioactive materials, liability and sustainable development. The President extended the remit of its chairman, Ambassador Reimaa, so as to continue informal consultations and get consensus on a text. At the time, there were 28 contended paragraphs in the report of Main Committee II, which mainly covered export controls, the Zangger Committee, nuclear-weapon-free zones — particularly Belarus' proposal — universality and regional issues. Chairman Kobieracki likewise was requested to continue to seek agreement on a clean text. Ambassador Westdal was asked to continue consultations on regional issues in subsidiary body 2, where mainly the paragraph on Iraq was still under discussion.

The draft of the Chairman of Main Committee I, Ambassador Reyes, was recognised as reflecting the state of progress in the discussions on disarmament, but since most of the issues in the paper were linked, the entire text remained to be finalised. As political attention was focussed particularly on the forward-looking objectives for disarmament being negotiated in subsidiary body 1 (Ambassador Pearson), Reyes felt that continuing consultations on the basis of his Main Committee I draft would not be productive until the principal issues were resolved. At the beginning of the final week, the President convened consultations among a group of 'representative countries' and sought to identify areas of common ground for inclusion into the disarmament document, distinguishing between more and less difficult categories of disputed text. His attempts met with little success. Some states objected to being excluded from the group (by the second meeting, the group was regarded as open-ended, although still held in a small room to restrict numbers). Some disagreed with the President's approach of categorising different levels of contended text, and discussions were frustrating and inconclusive.

At the end of week three, the US initiated talks between the nuclear-weapon states and the seven-nation NAC, showing that it considered the latter the most significant discussion partner among the non-nuclear countries. The first meeting, facilitated by Norway, was to scope out whether there were areas of mutual agreement in the Main Committee I draft. That meeting was sufficiently constructive to encourage them to meet again. Meeting outside UN headquarters, the group then undertook strenuous negotiations based on Pearson's latest draft from subsidiary body 1. By the middle of the last week, the NWSs and NAC had reached substantial agreement on paragraphs covering the CTBT, START process and ABM Treaty (using the language agreed on by the NWSs), and had watered down and substantially agreed on paragraphs on irreversibility, unilateral reductions, diminishing the role of nuclear weapons and reducing their operational status. They appeared to have reached an impasse over four crucial issues: giving an "unequivocal undertaking" to eliminate nuclear weapons, which was a bottom-line demand for the NAC, which China, the UK and the US were prepared to accept after much debate, but with which France and Russia had difficulties; tactical nuclear weapons, which Russia only wished to discuss in the wider context of overall strategic stability; "transparency", in the sense of a greater openness about the nature and number of each state's

nuclear weapons, which China wanted deleted or paralleled by an equivalent commitment to the no-first-use of nuclear weapons; and the inclusion of all the nuclear-weapon states in the process leading to nuclear disarmament, which France objected to.

At this point, the President recognised that the negotiations between the nuclear-weapon states and the NAC presented a likely basis for further work on a Main Committee I text. He urged the two sides to come to full agreement on a text that could be considered in a wider context. The UK and the US had already said they could accept the paper. Russia obtained instructions to do so as well and was followed by France. After further hesitation about the language on the issue of transparency, China said it could accept the paper with reservations on this point. Achieving agreement on forward-looking commitments and objectives on nuclear disarmament placed adoption of a final document within reach, thereby providing the incentive for renewed efforts to resolve other outstanding issues.

A slightly expanded group, comprising the NWSs, NAC, Indonesia on behalf of the NAM, Norway, Germany and the Netherlands, conducted intensive negotiations which eventually brought about agreement on Main Committee I's review of nuclear disarmament progress since 1995. Reimaa's final negotiations resulted in compromise language for the outstanding issues of nuclear safety, trans-shipments and liability and the relation between nuclear power and sustainable development. Kobieracki conducted intensive negotiations on Main Committee II issues, whittling down the contended paragraphs to fewer than half a dozen, mostly covering export controls and the Zangger Committee. Against opposition from 15 Central and Eastern European countries, Belarus continued to insist that its proposal for a Central and Eastern European Nuclear-Weapon-Free Space should be at least recorded and noted in the Final Declaration.

The major remaining issue that could have prevented consensus on a Final Declaration concerned the disagreement between Iraq and the US over how to characterise the former's status with regard to compliance. Arguing that it was in compliance with its IAEA safeguards obligations, Iraq had initially resisted any mention of non-compliance. It was supported in this by the Arab States. Russia also questioned whether it could still be said to be non-compliant, and China argued that there was "no evidence" of present non-compliance, and that on the nuclear issue, the Iraqi file should be closed. A number of other countries, on the other hand, had concerns about Iraq's non-compliance. These included Australia, Austria, Canada, Germany, Italy, Japan, Netherlands, New Zealand, Norway, and the UK, but some of them said they would like to see this issue to be mentioned in the context of Main Committee II, under safeguards, rather than among regional matters. The US, however, insisted that since the Resolution on the Middle East concerned all aspects of non-proliferation in the region, Israel's nuclear capabilities could not be addressed without also considering Iraq's non-compliance.

On 9 May, the IAEA's representative provided subsidiary body 2 with a letter of 10 April 2000 (S/2000/300) from the IAEA's Director General to the President of the Security Council, on Iraq's compliance with its safeguards obligations. Iraq accepted the principle of including a paragraph based on this letter in the Conference's final

report. In an early version, subsidiary body 2 quoted a large section of the Director General's letter, besides calling on Iraq to comply with its obligations under Security Council resolutions 687, 707, 715, and 1284. For a long time Iraq held out against any reference to the Security Council, arguing that the NPT review document should contain only references to NPT compliance. The US agreed to drop the references to resolutions other than 687, but refused to move beyond that. Ambassador Westdal went to great lengths to find a way out but his difficulties were compounded by the supposed inability of the US delegation to meet directly with Iraq's representatives, so that he had to act as the liaison between the two delegations.

Believing that agreement between the US and Iraq was possible, the President stopped the clock at 11.50 pm on Friday 19 May, to allow more time for negotiations. With Westdal reporting that agreement was within reach, Baali suspended the session at 5.00 am and resumed at 11.00 am on Saturday 20 May. At 3.00 pm Ambassador Westdal announced that a solution had been found for the way the Iraq issue would be referred to in the Final Declaration.

In the afternoon of Saturday the Conference was suspended again to enable Main Committee II and the Drafting Committee to complete their work. In hurried negotiations on the outstanding issues from Main Committee II, Belarus agreed to a paragraph welcoming new initiatives on nuclear-weapon-free zones but not explicitly noting its proposal. The remaining disputed language on export controls and the Zangger Committee was deleted altogether, to the dismay of a number of Western delegations.

The sixth NPT Review Conference adopted its Final Declaration just after 5.00 pm on 20 May. The document contained significant agreements on nuclear disarmament in particular, and on safeguards, non-military uses, nuclear-weapon-free zones, regional issues and the strengthened review process. There were many expressions of appreciation, and a sense that the NPT had been strengthened by the achievements of the past month. Several reservations were also recorded: Iraq rejected the reference to Security Council resolution 687, saying that it had fully complied with its NPT requirement and that the issue should not have been put on the conference agenda at all; China expressed reservations about transparency, saying it was "empty talk" without concomitant commitments to no-first-use, the withdrawal of nuclear weapons from outside the territory of the nuclear-weapon states, or the abolition of nuclear sharing; and Austria, Denmark and Germany emphasised that only the non-power application of non-military nuclear energy could contribute to sustainable development.

At the time this issue of the *Newsbrief* went to press, the official version of the Final Declaration was not yet available. It will be placed on the UN web site when published as well as on the PPNN web site — <http://www.soton.ac.uk/~ppnn/>.

b. Other Non-Proliferation Developments

- Both **China** and the **Russian Federation** are said to have made clear that they have problems adhering to the postulate that nuclear exports should require as a precondition the acceptance by the recipient state of 'full-scope' IAEA safeguards. This requirement is binding on members of the Nuclear Suppliers' Group

(NSG), and was again confirmed at the NSG meeting in Paris, in June. It has been recognised in paragraph 12 of the document on Principles and Objectives for Nuclear Non-Proliferation and Disarmament that was adopted in 1995 as part of a set of decisions which also included the decision on the indefinite extension of the NPT. That paragraph states that new supply arrangements for the transfer of nuclear items "should require, as a necessary precondition, acceptance of IAEA full-scope safeguards and ... binding commitments not to acquire nuclear weapons ...". A similar statement is included in the Final Declaration of the 2000 NPT Review Conference. While it has not been promulgated as such by the so-called 'Zangger Committee', the organisation of NPT parties that was set up to clarify Article III, 2 of the NPT by defining the items of which the export should 'trigger' safeguards in the recipient state, the majority of the members of that Committee have sought to include it also in its requirements.

At a recent meeting of the Zangger Committee, China — which is not a member of the NSG — is said to have expressed reservations about this proposal. As reported, the US, supposedly as part of its efforts to restore relations with China, said it had understanding for that country's position.

As for Russia, that country has announced that it hopes to sell five more power reactors to India and three to Iran. When earlier it agreed to sell two VVER reactors to India, which does not accept full-scope safeguards, its argument that the sale was 'grandfathered' because it had been made before the NSG adopted the 'full-scope safeguards' principle, was accepted by members of that body, including the US, after considerable hesitation. The US has let it be known, however, that it intends to raise the further sale of Russian reactors to India with the NSG, as a clear contravention of the 'full-scope safeguards' rule. Earlier indications that Russia planned to make the case that a broad interpretation of the NSG guidelines would allow specific items to be exported to India to improve the safety of its reactors seem to have been confirmed by the news that in early May, President Putin signed a decree which adds a provision to a presidential ordinance of 1992 banning exports of nuclear material, equipment and technology to non-nuclear-weapon states. Reputedly, the new stipulation enables the President, under certain conditions, to authorise exceptions to the full-scope-safeguards requirement for exports shown to be made in the interest of health and safety. The text of the decree is reproduced under **IV. Documentation**. Comments from Moscow indicate that there has not yet been a decision on further sales of reactors to India.

The US has also repeated its objection to any further sales of Russian reactors to Iran, which it claims is operating a clandestine nuclear-weapons programme. Reportedly, the US has agreed to go along with Russia's supply of one reactor unit for the Bushehr site, which it has agreed to 'grandfather', but it objects to the supply of further units. Russian and US officials have had discussions on the issue, in an attempt to resolve it before the G-8 [Group of Seven Most Highly Industrialised Nations plus Russia] summit meeting of 21-23 July, where they hope to present a joint statement.

Iran is subject to full-scope safeguards, by virtue of its agreement with the IAEA under the NPT; a senior Irani diplomat has, however, stated that it will not accept the Additional Protocol providing for enhanced IAEA safeguards as long as the US continues to prevent it from having nuclear cooperation with other nations. In an interview with the *New York Times*, a leading Russian missile scientist heading a prestigious technical university has described how the Russian government, presumably at US urging, had compelled his professors to cease teaching missile technology to Iranian students. The interview claims that Russia's military and intelligence communities had been supportive of these teaching activities.

The US National Security Agency is said to have reported on 8 June that Russia is selling missile technology and components to the DPRK, including special aluminium alloy, laser gyroscopes, and connectors and relays used in missile electronics. The same report also says that Russia is selling nuclear weapons components to Iran.

In a meeting in early June with Russia's Interior Minister, Vladimir Rushailo, the Prime Minister of Israel, Ehud Barak, has once again expressed concern over the continued flow of Russian nuclear technology to Iran.

At the recent NPT Review Conference (see previous item) both China and Russia accepted the principle that nuclear exports should be made only to states subject to full-scope safeguards. At the conclusion of the Conference, however, China said it would continue to give nuclear assistance to Pakistan, and only require safeguards on the exported items. There was said to be some doubt as well about Russia's adherence to the full-scope safeguards principle, after the announcement that it planned to export further reactors to India. The reappointment as Minister of Atomic Energy of Yevgeny Adamov, who is known as a keen promoter of nuclear exports and the prime supporter of the supply of further reactors to India, was also seen as a signal that Russia might wish to put its export interests above the full-scope safeguards principle.

(NW, 6/4, 13/4, 25/5, 1/6, 29/6; NYT, 10/4; NF, 17/4, 1/5; IT, 7/5; AFP, 8/5, 8/6; WP, 12/5; WT, 30/6; **direct information**).

c. Nuclear Disarmament and Arms Limitation

- **France** is reported to be planning to discuss at the summit meeting to be held by the G-8 this July in Okinawa, Japan, the outline of a financing plan for construction of a mixed-oxide (MOX) fuel fabrication plant in Russia. As now foreseen, the facility would be constructed and operated under a joint French-German-Russian programme. (NF, 1/5)
- On 14 April the State Duma (lower House of Parliament) of the **Russian Federation**, by a vote of 288 in favour, 131 against and four abstentions, ratified the Treaty Between the Russian Federation and the United States of America on Further Reduction and Limitation of Strategic Offensive Arms, of 3 January 1993 (START II). A number of Duma members did not participate in the vote, including former Deputy Prime Minister Yuri Maslyukov and Duma Speaker Gennady Seleznyov,

whose Communist Party otherwise voted solidly against. On 19 April the Upper House ratified the Treaty.

The Comprehensive Test Ban Treaty was ratified by the State Duma on 20 April, by a vote of 298 to 74. The results of the two votes were widely taken as reflecting the political prestige of President-elect Vladimir Putin.

Observers see a primary motivation for the strong support both measures received in the Duma, in the wish to put on the US the onus for further steps in arms limitation, and the conviction that, if no further progress is achieved, the blame lies squarely on America. In that context, the timing of the move, just before the 2000 NPT Review Conference, was seen as significant. There also seemed to be an awareness that ratification would strengthen Moscow's position in negotiations on further weapon reductions and on any amendments to the ABM Treaty, and reportedly, ratification of START II was thought to make US withdrawal from the ABM Treaty less likely. While Russian military leaders had long called for deep reductions in the strategic nuclear arsenal, an argument that is said to have also influenced members was the political advantage expected to arise from a favourable vote, at relatively small cost, while the likelihood that the US Senate would ratify the 1997 protocols modifying START II was thought to be small and entry-into-force not to be expected soon. Furthermore, the Law on Ratification as passed by the Duma contains a series of conditions for entry-into-force and continued adherence to the Treaty, designed to avoid its potential disadvantages and offset Russia's problems with US nuclear policies which it considers as jeopardising its strategic interests.

Accordingly, the pertinent legislation — of which an unofficial translation is reproduced below under IV. **Documentation** — contains a set of conditions of implementation and of events that would give Russia the right to withdraw. These include:

- breach of the Treaty on the part of the US;
- US withdrawal from, or infringement of, the ABM Treaty;
- deployment by the US or any other state of armaments preventing the normal functioning of Russia's early-warning system;
- deployment of nuclear weapons on the territory of new NATO member states;
- build-up of strategic offensive weapons of states not party to START II; and
- extraordinary events of economic or technical origin that make it impossible for Russia to fulfill its obligations under the Treaty or that jeopardise Russia's environmental security.

A requirement for the implementation of START II also is the conclusion of START III, for the conclusion of which the Duma has set the deadline of 31 December 2003. If by that date START III has not been concluded, it is to review the situation and determine Russia's further nuclear policy.

On the day it approved the law on the ratification of START II, the State Duma also adopted a resolution on the combat readiness and development of Russia's

nuclear forces. The resolution calls Russia's Strategic Nuclear Force the key instrument of its national defence and decrees that it shall enjoy priority financing. In early May, Russia's strategic bomber fleet was reported to have been brought up to 15, with the delivery of a Tu-160 bomber — the first new strategic aircraft to have reached the Air Force in twelve years. In late April, the Defence Ministry announced that the intercontinental ballistic single-warhead 'Topol-M' missile, which has a range of 6,200 miles (10,000 km) had been taken into service.

The entry-into-force of START II would reduce the number of strategic warheads each party is allowed to have to 3,500 by 2007. At present, Russia is said to have 6,472 such warheads and the US 7,763. Under START III, Russia is known to opt for a reduction to 1,500; the US has long been said to be unwilling to reduce the number of warheads it holds below 2,000-2,500. However, in the run-up to the visit of President Clinton to Moscow, the US Administration was said to consider a further cut of 2,000 warheads and there was a report that a study was being made of the consequences this would have on the US strategic stance. The Joint Chiefs of Staff were seen as opposed to a reduction of this size.

With regard to the calculation of the respective holdings, there are reports that in addition to deployed warheads each side has large stocks of nuclear "pits" from dismantled warheads. For the US, the number of pits in storage is said to be 12,000, of which 8,000 may eventually be destroyed. The remaining would be set aside as a national security reserve, in case Russia should expand its nuclear arsenal once again. Currently, the US is understood to be refurbishing its deployed nuclear warheads as well as part of those held in reserve.

Comments from Moscow indicate that Putin's statements on the occasion of the Duma's actions did not hint at flexibility regarding any of the conditions listed. Nevertheless, there had been some expectation in Washington that at June's summit meeting in Moscow a compromise might have been reached on modifications to the ABM Treaty (see page 9), possibly in return for further deep cuts in strategic warheads. There had also been suggestions that Russia might be willing to discuss cooperation on non-strategic anti-missile systems. On the other hand, many US observers thought that, given the opposition from the US Senate to any deal President Clinton might seek to make, President Putin would have little or no incentive to accept any compromises.

(If, 11/4; NYT, 11/4, 15/4, 22/4, 11/5; RFE/RL, 11/4, 14/4, 2/4, 2/5; Carnegie, 12/4, 17/4; PIR [Center for Policy Studies, Moscow] Letters #2: 14/4, #3: 14/4, #5: 14/4, #6: 16/4, #7: 17/4; Moscow Times, 13/4; AP, 14/5, 15/4, 21/4; CSM, 14/4, 5/5; IT, 14/4; Office of the White House, 14/4; R, 14/4, 18/4; WSJ [Europe], 14/4; Boston Globe, 15/4; WP, 16/4; China Daily, 17/4; WT, 11/5)

- In Russia, 200 intercontinental ballistic missiles, due to be destroyed under START II, are being converted into satellite-launch vehicles. The conversion programme was drawn up by the Russian firm Khrunichev in cooperation with Daimler-Benz Aerospace. So far, Khrunichev is said to have received orders for 20 rocket

launches. The first one is planned to take place within ten months. (AFP, 30/5)

- A motion brought by a coalition of anti-nuclear activists to block the shipment to **Canada** of a sample of MOX fuel containing plutonium from dismantled **Russian** nuclear weapons has been rejected by a US Federal judge. Russia is expected later this year to ship the sample to the Chalk River nuclear centre, where it is to be tested together with a similar sample from the US, to see whether it can be successfully burnt in a Candu reactor. The test is part of a Russian-US programme to convert warhead material to civilian use for ultimate disposal. (NF, 3/4; AP, 8/4)
- There are reports of a growing trend among conservative academics and politicians in the **United States**, away from formal bi- or multi-lateral arms reduction agreements and towards unilateral decisions. In what is described in pro-Republican media as "the end of arms control as the centrepiece of American foreign policy", Texas Governor George W. Bush, presumptive Republican candidate in the next Presidential elections, has called for a review by the Pentagon of the US' strategic needs, to ascertain what would be the optimal size of the American nuclear arsenal. The US, in Bush's approach, should then consider reducing its arsenal in accordance with the Pentagon's recommendations and challenge Russia to match its actions, with a view to achieving a set of reciprocal, but unilateral, arms reductions at the lowest sustainable level. At the same time, the US would deploy a much more robust anti-ballistic-missile defence than foreseen by the current Administration. Bush would abrogate the 1972 Anti-Ballistic Missile (ABM) Treaty. He would also avoid ratifying the CTBT.

US arms control experts contend that a strong anti-missile defence is likely to make possible adversaries reinforce their missile potential. These observers, therefore, see the two moves proposed by Governor Bush as mutually exclusive. Democratic politicians, some of whom are giving qualified support to Bush' ideas, have warned also that a sudden radical move away from time-hallowed ideas of security may raise suspicion among potential adversaries. In June, the Senate adopted a law which would authorise the President to waive the provision of the last five annual defence bills prohibiting the US nuclear arsenal to get below the 6,000 warheads allowed under START I, as long as START II is not implemented. The majority party in the Senate has added the stipulation that this waiver is not to be granted until after a comprehensive review of the US nuclear posture made in conjunction with the over-all defence review due in 2001. This measure, therefore, effectively prohibits the present incumbent from reducing the number of strategic warheads below START I levels. Republican Senate leaders have let it be known that they would be prepared to change the law and let the President waive the provision, should Mr. Bush win the elections.

- Vice-President Gore, the Democratic contender for the US Presidency, is among senior figures in the current Administration who criticise Bush's approach as dangerous and impractical. In an interview on nation-wide television, US Defense Secretary William

Cohen, the sole Republican member of the Clinton cabinet, has pointed to "internal inconsistencies" in Bush's proposal to combine nuclear-arms reductions with a large missile defence system. Cohen, too, said this would force other nations, including Russia and China, to increase their arsenals. He invited Bush to the Pentagon for a briefing by the Joint Chiefs of Staff and the admiral commanding US nuclear forces, so that if the issue becomes a subject of debate in the election campaign, he would be in a better position for a debate with the Vice-President. Governor Bush's press secretary, in an initial reaction, rejected the suggestion as "playing politics". It has been noted in the press that on the day Mr. Bush aired his ideas, military commanders told the US Congress that they would oppose further sharp reductions in the nuclear arsenal, beyond the limits under discussion for START III.

(NYT, 15/5, 24/5, 26/5, 28/5, 29/5, 8/6; 18/5, 25/5; WP, 23/5; AP, 25/5, 7/6; WT, 25/5; USA Today, 2/6; Vice Pres. Gore interview on ABC Good Morning America, 6/6; R, 7/6)

- In Moscow, on 4 June, the Presidents of the **Russian Federation** and of the **United States** had two rounds of talks and discussed a number of issues in the area of nuclear arms reduction and control. While they reportedly failed to reach any breakthrough on amendments to the Treaty on the Limitation of Anti-Ballistic Missile Systems, of 1972, they signed several joint statements.

One of these was a statement on Principles of Strategic Stability in which:

- the parties agree that the key objective of all nuclear arms reduction treaties is the maintenance of strategic stability (paragraph 1), which is interpreted as a capability for deterrence (paragraph 2);
- the parties agree that the 1972 ABM Treaty is a cornerstone of strategic stability and the essential contribution to reductions in offensive forces (paragraph);
- at the same time, the parties agree that the international community faces a dangerous and growing threat of proliferation of weapons of mass destruction and their means of delivery, and stress their desire to reverse that process, including through existing and possible new international legal mechanisms (paragraph 6). The presidents called on their ministers and experts to prepare a report with concrete measures to combat new threats (paragraph 14);
- the parties agree that the 1972 ABM Treaty can be modified to enhance its viability and to strengthen the treaty, taking into account any changes in the international security environment (paragraphs 8 and 9);
- the parties announce that the discussions will intensify on START III and ABM issues in accordance with the Moscow Statement of 1998 and Cologne Statement of 1999 (paragraph 4);
- the parties agree that the issues of strategic offensive arms cannot be considered in isolation from the issues of strategic defensive arms (i.e. stress the interrelationship between START III and the ABM Treaty) (paragraph 15).

The presidents further concluded an agreement on Management And Disposition Of Weapon-Grade Plutonium Designated As No Longer Required For Defense Purposes And Related Cooperation. Under the agreement, each Party must dispose of at least 34 metric tons of weapons-grade plutonium by irradiating it as fuel in reactors or by immobilising it with high-level radioactive waste, rendering it suitable for geological disposal. Both countries are required to begin operating industrial-scale facilities for the conversion of plutonium and its fabrication into fuel by 2007. This is to lead to a disposition rate of at least two metric tons of plutonium per year. Parties have also committed themselves to work with other states to identify additional capacities so as to double the disposition rate.

The agreement establishes certain rights, obligations and principles for monitoring and inspecting the disposition and the end products to ensure the plutonium can never again be used for nuclear weapons or any other military purposes. It is understood that the IAEA will be charged with this task. The agreement bans reprocessing of this plutonium until the entire 34 metric tons have been dispositioned. After that, any reprocessing of this plutonium must be done under effective, mutually agreed monitoring measures. The agreement also anticipates that any additional plutonium designated in the future as excess to defense needs can be disposed under these same terms and conditions. The US and the Russian Federation will work with other countries to develop an international financing plan for the Russian program and multilateral arrangements to integrate and coordinate this extensive cooperation with Russia. The total cost of the scheme is estimated at \$5.75 billion. Of this, reportedly, the US has raised only a small fraction, and unless other states contribute, the agreement will not be implemented.

The agreement is expected to be signed at the G-8 meeting at Okinawa, in July. On that occasion, international financing and assistance to Russia for its part of the disposition programme will be discussed. Canada, France, Germany, Italy and the UK are reported to have pledged their support.

Russia is understood to plan using 33 metric tons of the material it will disposition as MOX fuel and immobilise 1 metric ton. It is expected that the US will use 25.5 metric tons in MOX and immobilise 8.5 metric tons.

Along with the issue of finances for the Russian programme, settlement must be found for the issue of liability protection for the US firms involved. The American nuclear industry is said to expect this issue to be settled within a year.

The two presidents also signed a Memorandum Of Agreement Between The Government Of The United States And Government Of The Russian Federation On The Establishment Of A Joint Center For The Exchange Of Data From Early Warning Systems And Notifications Of Missile Launches. Under this arrangement, a Joint Data Exchange Center (JDEC) will be established in Moscow for the exchange of information derived from the respective missile launch warning systems. The JDEC will be staffed by US and Russian personnel and will be operated 24 hours a day, seven days a week. It is

also intended to serve as the repository for notifications to be provided under a system for exchanging pre-launch notification on the launches of ballistic missiles and space-launch vehicles. An agreement to this effect is being negotiated separately.

(R, 26/5; **White House Fact Sheet**, 4/6 [Moscow]; **WP**, 6/6; **PIR Newsletter**, 7/6; **NW**, 8/6; **NYT**, 11/6; **SF**, 12/6)

d. Nuclear Testing

- After the ratification of the Comprehensive Test Ban Treaty (CTBT) by Russia's State Duma, **China** said that it would accelerate the ratification process of that Treaty. The announcement, by a Foreign Ministry spokesman, gave no timetable. (R, 25/4; **China Daily**, 26/4)
- The Upper House of the Parliament of the **Russian Federation** voted on 17 May to ratify the CTBT. Russia's Ministry of Atomic Energy (Minatom) has said that the move will not affect the country's subcritical tests. In 1999, Russia conducted seven such tests at Novaya Zemlya. Minatom has announced that a new series will be conducted before the end of the current year. (NYT, 18/5; **IT**, 30/5; **Bellona**, 6/6)
- On 6 April, the **United States** was reported to have conducted its 11th subcritical nuclear test. The test was said to have involved a small amount of plutonium. (**Sankei Shimbun**, 7/4; **YOS**, 7/4)
- In April, retired **United States** General John M. Shalikashvili entered upon his presidential assignment of trying to convince members of the Senate to ratify the Comprehensive Test Ban Treaty. As Chairman of the Joint Chiefs of Staff Gen. Shalikashvili had recommended that the President sign the Treaty. (NYT, 8/5. See also **Newsbrief** no. 49, p. 3)
- Once again, also in the **United States**, there is talk of great cost overruns in the construction of a large laser installation, the National Ignition Facility at the Livermore National Laboratory. The facility is intended to serve in the US Nuclear Stockpile Stewardship Program by simulating conditions occurring in nuclear explosions and thus help avoid the need for explosive tests to check the safety and reliability of American nuclear weapons. Reportedly, senior staff at Sandia National Laboratory in Albuquerque, New Mexico, have charged that the costs of the project are so high as to threaten the viability of the Stewardship Program. DoE, which runs both the Lawrence Livermore and Sandia National Laboratories, has rebuked Sandia for its criticism and Energy Secretary Bill Richardson has said that the costs, which are now estimated at \$2.1 billion, will be covered from defence programmes and are largely within Livermore's budget. (NYT, 26/5. See also **Newsbrief** no. 49, pp. 3 and 4)

e. Nuclear Trade, International Cooperation and Nuclear Export Issues

- As part of its non-proliferation policy the **United States** has been urging non-US operators of research reactors using high-enriched uranium (HEU) to switch to low-enriched (LEU) fuel. Under the Reduced

Enrichment in Research & Test Reactors (RERTR) programme, started about 20 years ago, the US has obliged foreign operators to convert their reactors to use LEU, sometimes at the expense of performance, and at higher cost, while US research reactors can continue to use HEU. To enable high-flux reactors to continue operating the US had promised to produce a new uranium-molybdenum fuel. Development of this fuel does not yet seem to have been completed, and for the interim European research reactor operators have been promised limited supplies of HEU feed fuel. This does not yet seem to be forthcoming, however, and operators are said to be concerned at the American failure to make good on the promise. HEU is said to be needed most urgently for the High-Flux Reactor at Petten, in the **Netherlands**, which Europe's largest source of radio-isotopes and the biggest consumer of HEU; it also appears to be the only European high-performance reactor that can convert to lower enriched fuel without losing performance. Not all European research reactor operators are confident that the US will adhere to its agreements with Belgian, Dutch and French operators to supply HEU, but the Dutch are said to be still sanguine that it will be forthcoming in time. (NF, 3/4, 17/4)

- **China** is reported to have refused giving the **United States** a blanket assurance that it will not transfer to third parties items produced with American technology acquired under the 1985 agreement for cooperation between those two states. Instead, it will give such assurances on a case-by-case basis. As a result, since 1998, 16 requests from US companies for export licenses regarding civilian nuclear-power reactor technology are being held up. China is not said to be reviewing the matter. (WT, 9/5)

f. IAEA Developments

- On 5-8 June the Agency's Board of Governors reviewed the Safeguards Implementation Report (SIR) for 1999. In the report, the IAEA concluded that in 1999 in states which have safeguards agreements in force, declared nuclear material and other items placed under the Agency's safeguards remained in peaceful nuclear activities or were otherwise adequately accounted for. It based this conclusion on evaluation of material regarding 70 states and "Taiwan, China". It found no indication that the nuclear material declared and placed under safeguards had been diverted for any military purpose or for purposes unknown or that any other items placed under safeguards were being misused.

The SIR states that the Democratic People's Republic of Korea (DPRK) remains in non-compliance with its safeguards agreement. 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 the material in that country. The SIR says that although the safeguards agreement remains binding and in force, the Agency is able to implement only some of the required safeguards measures. These, it says, include monitoring the "freeze" on the DPRK's graphite moderated reactors and related facilities, as requested by the Security Council and foreseen in the Agreed Framework between the DPRK and the US.

With respect to Iraq, the SIR states that since December 1998, the Agency has not been in a position to implement its safeguards mandate and therefore cannot at present provide any assurance that Iraq is in compliance with its obligations under the relevant Security Council resolutions — the IAEA's safeguards obligations having been subsumed under those resolutions.

On the strengthening of the effectiveness and improvement of the efficiency of the safeguards system, SIR says that work has continued in five areas: access to and evaluation of substantially more information than previously available to the Agency on a state's nuclear and nuclear-related activities; increased inspector access to locations in a state; advances in safeguards technology and verification procures; more effective and efficient use of all resources; and integrated safeguards.

According to the SIR by the end of 1999 Additional Protocols with 46 states had been approved, and measures foreseen in the Model Additional Protocol were also being implemented in Taiwan. The 46 Additional Protocols pertained to 46 non-nuclear-weapon states, one state with an INFCIRC/66-type safeguards agreement [the state in question is Cuba — ed.] and four nuclear-weapon-states which had voluntary-offer safeguards agreements with the Agency. Eight of the approved Additional Protocols were in force, i.e., those with Australia, the Holy See, Indonesia, Japan, Jordan, Monaco, New Zealand and Uzbekistan. In Ghana the Additional Protocol was being applied provisionally, pending entry into force. Altogether, at end 1999, safeguards agreements were in force with 140 states (and with Taiwan) but 54 states parties to the NPT had not yet concluded safeguards agreements with the Agency pursuant to the Treaty. (**Executive Summary to IAEA Document GOV/2000/23**, 13/5; **IAEA Press Release PR 2000/14**, 14/6)

- Professor Werner Burkhardt from Germany has been appointed as Deputy Director General, Head of the Department of Nuclear Sciences and Applications. He will assume his duties in July. (**IAEA Press Release**, PR 2000/10, 3/4)

g. Peaceful Nuclear Developments

- Engineers in **Argentina** are said to have built a pilot-scale 'Concept Demonstration Experimental Facility' for the enrichment of uranium, which uses a "radically new" gaseous diffusion process. Reputedly, the new technology does not require the huge plants needed in the traditional diffusion process, involves lower construction and operating costs, and presents "near-zero" proliferation risks which, according to the designers, makes it particularly suitable for export to developing countries, where after 2010 a need for enrichment services is expected to arise. (**NF**, 17/4)
- The European Commission (EC) has approved a loan of about \$200 million (212.5 Euro) to **Bulgaria**, for the upgrading of the two newest VVER-1000 reactors at the Kozloduy power station. This is the first loan Euratom makes to a non-member state. Russia is reported to have promised a credit of \$90 million, and a loan is also expected from the US Export-Import Bank. The work will be done by a French-German-Russian consortium.

The executive director of Kozloduy has confirmed that units 1 and 2 will be shut down in 2002 or 2003. The EC seeks the shut-down of units 3 and 4 by 2006, but the plant's management is said to hope to keep these units going until 2008 and 2010, respectively, and is modernising them. (**NW**, 20/4, 22/6, 22/6)

- The start-up of the Temelin nuclear-power station in the **Czech Republic** seems to be in doubt once again. Temelin is a Soviet-type VVER-1000 reactor that has been completed with Western technology and equipment. Its completion has given rise to large cost-overruns and long delays. Reportedly, the Czech government has said that it will allow operation only if there are no further delays, but international demands for a new environmental impact assessment, made mainly under Austrian pressure, may put the schedule back further, especially since the Vienna authorities now claim that the data Prague has submitted are inadequate.

Present expectations are that Temelin-1 will load fuel before 31 August and, if all goes according to plan, the plant may go on-line this Autumn. There is said to be a possibility, however, that if a citizen's initiative supported by the country's environment minister for a referendum for the start-up of Temelin to be held next year is successful, further operation may still be prevented. The Austrian environmental group Global 2000 on 23 June sent out a "red alert" when the Czech press printed the rumour that fuel loading at Temelin might start on 4 July. The Austrian government once again called for a 'comprehensive environmental impact statement' on Temelin before fuel is loaded.

Five nuclear consortia are said to be competing for the job of replacing safety-related instrumentation and control at the four VVER-440 reactors at Dukovany. There is hope that the decision, reportedly of great technical complexity, can be taken by Summer.

The Czech nuclear establishment is reported to be upset by attempts of the EC to impose what they see as vaguely defined safety criteria on countries applying for membership of the European Union (EU). Apparently, Brussels has been asking for information and reviews regarding the reactors at Dukovany and Temelin, in apparent disregard of extensive domestic and international reviews by, among others, the IAEA.

(**NW**, 6/4, 11/5, 29/6; direct information)

- In **France**, officials from three German provinces have visited the Cogema MOX fuel fabrication plant at Cadarache, to check on irregularities reported to have been committed there in the fabrication of MOX fuel for German reactors. It seems that no significant problems were found. Slight problems, said to be without "safety-technical significance" had been found in quality-control data for fuel assemblies for a plant in Bavaria; these were found to be due to a 'software problem' which has since been fixed.

In May, France was reported to have loaded MOX fuel into one of its power reactors, bringing to 20 the number of its light-water power reactors using this fuel. Electricité de France (EDF) is known to hope to get licenses for a

total of 28 reactor units to use MOX, but it is said not to be in a hurry to expand its MOX use for the moment.

(NF, 3/4, 1/5)

- After almost two years of intensive negotiations between the government of **Germany** and four leading nuclear utility operators, an agreement was reached under which the country's 19 power reactors would be shut down after they have generated a total of 2,623 net terawatt-hours (1 TWh = 1,000,000 MWh), reckoned from 1 January 2000. The figure agreed upon lies about half-way between the 3,000 TWh industry had held out for, and the 2,000 TWh said to have been the latest target of the government's Green/Alliance 90 coalition partner. Under the agreement, which still requires the consent of all companies and their shareholders, utilities would have the right to trade each reactor's allotment, so that smaller and older reactors may be shut down earlier and newer plants may be kept going well beyond their 32 years. The fact that no date has been set for the shut-down of any individual reactor, or for the closing of the last one, is said to have raised protests among members of the Greens who, however, at a party Congress on 22-24 June voted to accept the arrangement. The German Federation of Electricity Producers is said to have calculated that the arrangement represents an acceptable average operating lifetime of 24 years for each reactor.

The German government has announced that it is reevaluating its bilateral and multilateral international agreements in the nuclear sector. This move is understood to reflect the current government's wish to avoid association with international activities that would directly or indirectly promote the peaceful uses of nuclear energy. Reportedly, it might affect German funding of international organisations whose programmes include such promotional work.

(NW, 20/4, 25/5, 15/6, 22/6, 29/6; direct information. See also *Newsbrief* no. 47, pp. 9 and 10, no. 48, p. 9, and no. 49, p. 5)

- **India's** Department of Atomic Energy has announced its plans for nuclear power generation for the next 20 years, which involve raising the present capacity of 2,280 MW to 20,100 MW by the year 2020. The cost involved is reported to be about \$22 billion at 1996 prices, without counting financing or inflation. A parliamentary committee has called the target "over-ambitious and unrealistic". (NW, 20/4)
- Eight months after last September's criticality accident at the uranium conversion plant at Tokaimura in **Japan**, and against initial predictions, the second of three workers directly exposed to radiation has died. The nuclear-fuel processing license of the operating company, JCO Co. Ltd. has been revoked. The police of Ibaraki Prefecture, where Tokaimura is situated, are said to be preparing criminal charges against six persons: JCO's President is expected to be charged with violating pertinent nuclear regulations and five members of the staff of the facility may face criminal charges for occupational negligence.
- The director of the Nuclear Safety Bureau of the Science and Technology Agency, which was blamed for its evaluation of JCO's license application, including, reportedly, the assumption that criticality could not occur, has resigned; Japan's Nuclear Safety Commission was put under the direct jurisdiction of the Prime Minister.
- Japan's Nuclear Power Engineering Corporation has established an internal disaster prevention centre which, inter alia, is mandated to develop training and exercise programmes, disaster preventive facilities and emergency-measure technologies. Eventually, several off-site centres will be established and a satellite communications network will be developed to share information at short notice with the official government agencies concerned. The Central Disaster Prevention Council, which is headed by Japan's Prime Minister, has set up a system under which facility operators must report to all related central and local government offices within 15 minutes of any accident that causes radiation levels to rise to 5 microseiverts per hour.
- Reportedly as a result of a slowing growth of the demand for energy and a reform in the high-voltage market, Japan is now expected over the next ten years to build ten nuclear-power reactors rather than the 17 proposed earlier.
- (Atoms in Japan, April; NW, 6/4, 20/4; NYT, 28/4; NNN, 2/5, 3/5; *Daily Yomiuri*, 13/5. See also *Newsbrief* no. 48, pp. 9 and 10)
- On 2 May, the Parliament of **Lithuania** approved a law ordering the shut-down of the 1,500 MW, RBMK-type Ignalina-1 power reactor. The government had agreed to close the facility by 2005 in exchange for talks about joining the EU. In June, at a meeting near Vilnius of 40 countries, international organisations and industries, modalities were discussed of raising the 270 million Euros said to be needed to decommission the plant. Eighteen mostly smaller countries are reported to have pledged a total of 207 million Euros, for a range of decommissioning projects. Some states' representatives said they would pledge later, having already committed available funds for Chernobyl. There has been some comment about the fact that larger states like France, Germany, Italy, Japan and the UK did not offer support. (NW, 27/4, 15/6, 22/6)
- **Pakistan's** 'Chasnupp-1' reactor achieved criticality on 3 May. The pressurised-water reactor, built under an agreement with China, is subject to IAEA safeguards. It is said to be the first nuclear power plant to be designed by one Asian country and exported to another. (NNN, 4/5; NW, 11/5)
- A study commissioned by the government of **Sweden** has found that a shut-down of the Barsebäck-2 nuclear power reactor in 2001, to which the government has committed itself, will be "unworkable". The goal of replacing the lost output of Barsebäck-1, which was shut down six months ago, through conservation and renewable energy sources has not been met, and shutting unit-2 down would exacerbate fossil-fuel dependency and carbon dioxide emissions. (NNN 205/00, in UINB 9/6)

- In the **United Kingdom**, British Nuclear Fuels (BNFL) is facing acute problems. In May, a new assessment of the costs of cleaning up the company's site at Sellafield, in Cumbria, is said to have concluded that these will be £1.5 (\$2.3) billion higher than originally thought. This would bring the total long-term liabilities of the company to £36 billion, leaving the company technically bankrupt. The situation is said to raise doubt about the feasibility of the government's plans to privatise the company.

BNFL has long been targeted by environmentalists for its large discharges of nuclear waste into the Irish Sea. This waste is said to spread northward to Scotland and Scandinavia. Denmark, Iceland and Norway are said to plan a joint demand that Sellafield ceases nuclear processing immediately.

Earlier disclosures about falsification of quality control data for MOX fuel assemblies fabricated in BNFL's MOX Demonstration Facility at Sellafield, for utilities in Germany, Japan and Switzerland (see *Newsbrief* no. 49, p. 6), had been expected to have important consequences for that firm and possibly for the future use of MOX fuel. BNFL's safety record had been criticised before, although this particular incident appears to be neither safety-related nor does it seem to have affected the performance of the fuel. The event is seen, however, as reflecting systematic management failures and disregard of regulations, which might eventually also have an impact on the safety and on the long-term viability of BNFL's operations. An extensive overhaul of the company's operations at Sellafield has begun and a new organisational structure is being set up.

In the US, BNFL had been contracted to construct and operate a vitrification plant to treat and immobilise 54 million gallons of highly radioactive stored in 177 underground tanks at the Department of Energy (DoE) Hanford site. The initial contract proposal, of 18 months ago, had called for a total price of \$6.9 billion. Recently, however, BNFL announced that the job would cost \$15.2 billion over 20 years. In response, the Energy Secretary ended the contract, on the grounds that serious doubts had arisen about BNFL's ability to do the job. DoE is now said to be looking for alternative contract proposals. The Department had already announced plans to conduct a comprehensive review of BNFL's work on other US contracts, mainly from the point of view of safety. Anti-nuclear and environmental groups have petitioned DoE to withhold all governmental contracts from BNFL. Some experts believe that BNFL's last estimate for the clean-up of the Hanford tanks was realistic, and that DoE will be hard-fought to get the job done for much less.

In Germany, where the Unterweser reactor was stopped after BNFL had confirmed that fuel elements loaded in 1997 contained MOX for which quality control data had been falsified, the government has confirmed the indefinite suspension of all imports of MOX from BNFL. It has denied as a deliberate misinterpretation the latter's contention that MOX imports would be allowed to resume once the US Nuclear Installations Inspectorate has certified that BNFL had again demonstrated its credibility. BNFL's new chief executive officer has expressed confidence that it can save its contracts with utilities abroad. Discussions are said to be going on with

Japanese authorities, what to do with the 'tainted' MOX fuel of Kansai Electrical Power Co. (KEPCO). KEPCO has released a report on the matter which outlines measures to prevent a reoccurrence. It mentions a lack of awareness at BNFL of quality assurance and control but also blames KEPCO for inappropriate handling of the matter. In the Netherlands, on the other hand, the government authorised the resumption of irradiated-fuel shipments from the Dodewaard reactor for reprocessing by BNFL, after receiving assurances from the UK Energy Minister that Sellafield was believed to be operating safely. The *Greenpeace* environmental organization has gone to court to have the license suspended.

Nine BNFL directors have been replaced and the entire management is being reorganized. The company is reported to be under pressure from politicians and environmentalist organisations to abandon its reprocessing and nuclear fuel manufacturing business, and concentrate instead on waste disposal and nuclear clean-up work. The uncertain future of the plutonium economy, especially in Europe, is seen as another argument for a cut-back. It is feared, however, that a drastic reduction in operations would have to lead to large-scale cuts in the work force, and authorities in Cumbria, where Sellafield is situated, are keen to see BNFL continue at its present level. Even before the recent disclosures about the unexpected cost increase of the cleanup at Sellafield, the British government had deferred until after the general election in 2002, its plans to partially privatise the company. Currently, consideration seems to be given to the possibility of government support in the form of an assurance that BNFL will not be allowed to go bankrupt. This, however, being equivalent to state assistance, might be contrary to EU rules.

Meanwhile, it has been reported that BNFL is participating financially in feasibility studies being conducted in South Africa on the new 110-MW modular high-temperature gas-cooled 'pebble-bed' reactor. The company has also setup two support organisations that are to improve the performance of British magnox reactors.

(*Atoms in Japan*, April; NF, 3/4, 17/4; SF, 3/4, 10/4, 24/4, 1/5, 15/5, 5/6; I, 7/4; E, 8/4; NW, 20/4, 18/5, 15/6; YT, 20/4; E, 13/5; *Sunday Telegraph* [London], 28/5)

- In late March, the government of **Ukraine** decided that the third and last operational unit of the Chernobyl nuclear-power station, and Ukraine's last operational RBMK reactor, would be closed down in the course of the year. Unit-4 was destroyed in the 1986 disaster; units 1 and 2 were shut down in 1991 and 1996, respectively. On 5 June, President Kuchma told US President Clinton, who paid a brief visit to Kiev, that unit-3 — which produces about five per cent of the country's electricity — would be shut down by 15 December. It was recalled that Mr. Kuchma had said that the shut-down would be conditioned on contributions by major industrial states towards the \$1.2 billion needed to complete the two VVER-1000 reactors Khmel'nitski-2 and Rovno-4. During the Kiev visit it was announced that the US President had agreed to urge the G-8 to implement the obligations assumed in 1995, including compensation for

the shut-down of Chernobyl. Clinton said that the US would be ready to support completion of the two VVER-1000s if this was financially viable and part of a least-cost energy option for Ukraine. Negotiations on financing the completion of the reactors have been going on for some time with Russia, the EU and the European Bank for Reconstruction and Development (EBRD). The General Manager of the Chernobyl power station has called for the establishment of an international fund to finance the decommissioning of his plant.

During his visit Mr. Clinton also announced that the US would contribute \$78 million towards the repair and strengthening of the sarcophagus over the ruined Chernobyl-4 reactor. The total cost of this project is estimated at \$750 million. The US also promised a grant of \$2 million for safety improvements at other nuclear plants.

There are reports of disappointment in Ukraine about the low level of international assistance. The relative modesty of the amount pledged by the US is compared with the concessions made by Ukraine to meet American demands such as the dismantlement of Ukraine's nuclear arsenal, the shut-down of Chernobyl and, more recently, the decision not to follow through on a lucrative contract for the supply of turbines for the Bushehr power plant in Iran. That concession is said to have had a negative economic impact in the area where the producer of the turbines is situated. Ukraine officials have pointed out that the enforced sacrifice was pointless as the turbines are now being manufactured in St. Petersburg.

(NW, 6/4, 8/6, 22/6; NYT, 4/6, 6/6; NPR, 5/6)

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

- On the occasion of a meeting with the Prime Minister of Singapore, in April, China's President Jiang Zemin reiterated the position of the **People's Republic of China** (PRC) on the Taiwan issue, stating that it was Beijing's guiding policy, "to resolve the Taiwan issue [through] 'peaceful reunification' and 'one country, two systems'." He stressed that the 'One-China principle' was the "precondition and basis" and that, under that principle, "we can negotiate on everything", adding, however, that "Taiwan independence in any form is not permissible". On the same occasion, China's Prime Minister, Zhu Rongji, was reported to have said that Taiwan would not be allowed to separate from China; this, he said, was an issue of principle on which Beijing "would not give an inch". A few days earlier, China's Vice Premier Qian Qichen had said that (then) President-elect Chen Shui-bian would have to take "substantial steps" to win the PRC's trust. High-level Chinese officials have been quoted in the American press as warning Washington not to underestimate China's determination to stop Taiwan from seeking independence. Reportedly, officials in Beijing were concerned that this was not fully understood in Washington.

As President-elect Chen told some US Members of Congress that he would not declare independence as long as the PRC did not attack the island. He stated that he wanted to open negotiations with the Mainland on a "new relationship". On another occasion Chen spoke of

forming a "confederation" with the PRC, confirming, however, that he could not accept a 'One-China' principle that sees Taiwan as a province or a part of the PRC and would relegate the island to the status of a local government. For its part, Beijing has continued to warn that Chen would court disaster if he did not accept the 'One-China' principle. A PRC Foreign Ministry spokeswoman has said that Beijing was not pleased with Chen's reactions so far: while he had said Taiwan would give up the two-states theory, he had said nothing about 'One-China'. On 25 May, China's official news agency accused Chen of having adopted a "covert Taiwan independence stance" and of questioning the 'One-China' principle. In June, it once again called on Chen to drop plans for a plebiscite on Taiwan's status. At that time, when US Secretary of State Albright was on a visit to Beijing, she supposedly was told by China's leaders that there could be no reconciliation talks with Taiwan, as Albright had urged, until Chen had acknowledged that there was only one China. The US government is understood to have rejected suggestions that it should be directly involved in cross-straits mediation to improve relations between Taiwan and the Mainland.

At his inauguration, on 20 May, and in speeches on the following days, Chen Shui-bian had tried to reassure Beijing that he sought reconciliation, proposing, among other things, discussing the meaning of the 'One-China' principle and mentioning the "question of a possible future 'One-China'". The PRC's initial reaction, that talks might resume if both sides could "express in their own way orally" their support of the 'One-China' principle, was seen as implying greater flexibility, but it was followed by a restatement of the traditional demands, in which acceptance of that principle was declared to be the absolute precondition of strengthening ties, and Chen was warned that he faced "the abyss of disaster" if he tried to turn Taiwan into a separate state. Observers in Taipei and in Washington, however, claimed to have noticed a softening of the rhetoric, including a remark by a senior Chinese official that the PRC was ready to give Chen "a long time" to make progress on reunification. In late June, President Chen is said to have come close to a recognition of the 'One-China' principle when he said he would recognise the agreement of 1992 in which Taiwan and the PRC "agreed to disagree" about how to describe Taiwan's status. This would end his predecessor's policy of insisting on state-to-state relations. To Beijing's reported dissatisfaction, he added, however, that Beijing and Taipei should be able to interpret the phrase 'One-China' in their own words. This, the PRC qualified as a distortion of the 1992 understanding, reflecting Chen's "separatist stance". US comments indicated an expectation that once both sides had ascertained the other's intentions, there might be an opportunity for closer commercial, if not political, cooperation. There were also reports, however, that top policy makers in Beijing saw the Taiwan issue as being of great urgency and needing to be resolved in five to seven years.

Taiwanese forces have held anti-invasion exercises. The military situation across the Taiwan Strait is said to be quiet, but there were also reports of ongoing exercises by Mainland forces. Reports in the Australian press about

PRC plans to blockade ports in Taiwan were dismissed by the latter's military as unfounded.

In June, the Pentagon released a study on China's military forces which was said to conclude that Beijing is modernising its armed forces to counter threats from technologically superior opponents, but, due to significant shortcomings in its weapons and training, will for an indefinite period be unable to challenge the US. The report is understood to say that currently, Mainland forces would not do well in any attempt to invade Taiwan. While the report is said to downplay the likelihood of open conflict between the Mainland and Taiwan, and there are reports that for the short term at least Beijing has decided to use economic sanctions instead of military threats, ardent Republican supporters of the latter are using the same data to support their claim that the US must give greater support to Taiwan.

Military officials in Taipei have expressed alarm over the PRC's missile deployment, which they see as a threat to the island's security; they have called for the early acquisition of advanced American anti-ballistic systems. The Commander-in-Chief of US forces in the Pacific has said that the PRC's missile build-up poses a long-term danger, which might force the US to supply Taiwan with a theatre missile defence (TMD) system. The Taiwan military are also said to be concerned about the growing strength of the PRC's navy. A first shipment of anti-ship cruise missiles to be carried on the *Sovremenny*-class destroyers the Russian Federation has sold to the PRC is known to have arrived in China and a second consignment is expected. Taiwan, which does not seem to have the means to protect it from such missiles (although, reportedly, it is working on an indigenous medium-range anti-tactical ballistic missile system), has expressed the wish to buy four American destroyers of the 'Arleigh Burke' class, equipped with 'Aegis' battle-management systems; long-range radar to detect ballistic-missile launches; submarines; and an anti-submarine system based on 'Orion' aircraft. Military experts in the UK and the US are said to hold the view that Taiwan neither has sufficient trained personnel to man the ships or aircraft in question, nor the infrastructure to make efficient use of such weapons. The US Administration, intent on improving relations with Beijing yet wishing to assist Taiwan, had hoped to postpone a decision on the matter. Also, even before the release of the latest Pentagon study, prominent US military officials were said to consider reports about the threats to Taiwan to be overstated and to feel that, while the missiles aimed at Taiwan could eventually become a threat, a large-scale military invasion is unlikely.

The issue has stirred controversy between the Administration and Conservative members of the Congress. An analysis by American scientists of sophisticated satellite imagery that was said to show fewer and older aircraft than the Mainland had generally been thought to have appears to contradict Congressional claims about the supposedly massive superiority of the PRC's air force over Taiwan.

In mid-April, in what commentators saw as a compromise approach, the US Administration accepted a recommendation from the Department of Defense

(DoD) to sell Taiwan a long-range radar 'PAVE PAWS' system, which would be delivered once Taiwan has shown how it would be integrated into its air-defence system. In June DoD announced the sale of two weapons systems to improve the capabilities of Taiwan's air force. DoD has recommended that, before more equipment is supplied of the type desired by Taiwan, a comprehensive study should be made of its maritime and air defence needs. It also advocated selling Taiwan advanced medium-range air-to-air missiles, to be stored in the US and moved to the island if the PRC acquired a similar, Russian-made, system. Taiwan would also receive an upgraded air-to-ground missile system. Further, a major training programme would be provided for Taiwanese military personnel. It was foreseen that from time to time in the future, consideration would be given to the supply of further technologically advanced weaponry. DoD has said that the sale of the four destroyers, submarines and anti-submarine aircraft will be postponed; it has been noted that in any case, the earliest the destroyers could be supplied would be in five years. Suggestions have been made for various less spectacular items that might be provided in the interim.

In the US, Conservative politicians see the Pentagon's proposals as insufficient and an attempt to appease the PRC, and some Republican senators have threatened to push for the early adoption of the Taiwan Security Enhancement Act, so as to ensure closer military cooperation with the island. In February, that Act was passed with a large majority in the House of Representatives; President Clinton said he would veto it. Beijing has let it be known that its adoption would have negative consequences for Sino-American relations. In April, an American Senator on a visit to Taiwan is said to have received word that President-elect Chen would prefer adoption of the Taiwan Security Enhancement Act, to which Beijing could be expected to have a strong reaction, to be put off until after his inauguration in May. The Senate leadership accordingly postponed voting on the measure.

In Washington, senior Republican politicians are said to be vexed with the Administration for having put Taiwan on a list of states that pose intelligence threats and are priorities for FBI counterespionage activities. They traditionally see Taiwan as a separate nation, friendly to the US. An Administration official has said that the measure reflects the current government's attitude to Taiwan, which, he said, is seen as a "provocateur and troublemaker". The *de facto* representation office Taiwan maintains in Washington has called the designation "ill advised and most regrettable".

In early April, a mid-level official of the US Central Intelligence Agency (CIA) was dismissed on the grounds that he was responsible for errors that led to the bombing of China's embassy in Belgrade during last year's conflict over Kosovo. Several other CIA employees, including, reportedly, a senior official, were said to have been disciplined. The CIA issued a statement repeating that the bombing was an accident. Reportedly, in what was described as a "rush for targets", it had prepared a 'targeting proposal' in which the building that contained the embassy was identified as a warehouse that served as the headquarters for Yugoslav army procurement. The

Foreign Ministry in Beijing let it be known that it rejected these explanations and was "unsatisfied" by the dismissal of the CIA employee. It again demanded a thorough investigation, strict punishment for those responsible and a "satisfactory explanation". At a commemoration of the anniversary of the bombing, Beijing's second-most powerful official, Li Peng, the head of China's legislature, spoke once again of the "barbarian" nature of the attack.

After the bombing of its embassy in Belgrade, Beijing suspended its ongoing dialogue with the US on issues of arms control and nuclear non-proliferation. In mid-April, it had let it be known that, depending on how well bilateral relations would develop, it would consider resuming the consultations "at a suitable time this year". In early June, the US State Department said that the talks were about to be resumed; both sides seemed to aim at starting in July. It was said to be Washington's intention to discuss, among other matters, recent allegations that China is assisting Libya and Pakistan in the development of long-range ballistic missiles. The cooperation with Libya is said to have started in 1998, supposedly under cover of help with the development of its railway system.

The US State Department has charged Lockheed Martin Corp. with 30 violations of export controls legislation. Allegedly, the firm has provided a Chinese state-owned industrial conglomerate, China Great Wall Industry Corporation, with a scientific assessment of a satellite engine made in the PRC. The State Department has also said that already in 1994 the PRC had "probably" acquired crucial satellite technology from Lockheed Martin, when that firm supplied it with data on launching a commercial satellite which also contained sensitive information that might have helped China improve its military rocket capabilities. Lockheed has denied any wrongdoing, but in mid-June it agreed to settle the case for \$13 million.

Israel's reported plan to sell \$2 billion worth of airborne radar ('AWACS') equipment to China has been criticised by the US with the argument that the sale could change the balance of power between Beijing and Taipei. Israel has denied that the deal threatened the US and had said that it has the right to act in its own interests. Reportedly, however, it is Washington's view that Israel should defer to its strategic judgments in regions beyond the Middle East. US Congressional leaders are said to have warned Israel that if it adheres to its contract with China it will jeopardise the military assistance it receives from the US. In early May there was a report that the US was holding up military supplies to Israel, to convince it to stop the deal with China. Israel, for its part, is reported to have told the US that the UK was ready to sell China AWACS aircraft if no one else were to do so. Israel claims that it notified Washington four years ago of its intention to sell the radar surveillance systems to China and that the Pentagon had been satisfied that the sale would not involve proprietary American military technology. During a visit by China's President Jiang Zemin to Israel, Prime Minister Ehud Barak said that he hoped to proceed with the sale, but since then, several senior Israeli officials have said that maintaining good relations with the US would be paramount in their country's consideration of Washington's request to refrain from

selling the equipment to the PRC. China has urged the US not to interfere. There appear to have been suggestions in Israel that the supply might be limited to equipment for only one aircraft and abstain from further supplies of this kind. Israel's defence minister is planning to visit Washington in July in hopes of settling the matter.

A supposedly "top-secret" US intelligence report is said to have alleged that China has been using American-made supercomputers to simulate nuclear warhead detonations, but another source has been quoted as saying that Beijing might have used a combination of US components and "homemade" systems. A DoD spokesman has pointed out that most US nuclear weapons could be designed with computers now publicly available, while China has developed an indigenous industry to build high-performance computers. He has also said that the hardware needed for such computers is made and sold by many American and foreign companies. The Republican majority in the US Senate is working on legislation restricting once again sensitive supplies to China. Beijing has protested what it depicts as an attempt to undermine its relations with the US. The American Secretary of Defense is planning to visit Beijing in July, reportedly to discuss the PRC's assistance to missile programmes in Iran and Pakistan.

(AFP, 1/4, 2/4, 6/4, 7/4, 10/4, 12/4, 14/4, 19/4, 21/4, 24/4, 27/4, 1/5, 4/5, 7/5, 9/5, 12/5, 16/5, 17/5, 22/5, 25/5, 30/5, 7/6; WP, 1/4, 4/4, 6-8/4, 12-14/4, 17-19/4, 27/4, 28/4, 22/5, 23/5, 30/5, 20/6; AP, 3/4, 5/4, 10/4, 17/4, 18/4, 5/5, 9/5, 12/5, 17/5, 19/5, 26/5, 7/6, 21/6, 22/6, 23/6, 26/6, 28-30/6; NYT, 3/4, 4/4, 9/4, 11/4, 13/4, 14/4, 18-20/4, 20/5, 22/5, 23/5, 25/5, 14/6, 24/6, 29/6-1/7; WSJ, 3/4, 7/4, 17/4, 19/4, 12/5; Knight-Ridder News Service, 4/4; R, 5/4, 10/4, 17/4, 19/4, 8/5, 16/5, 17/5, 26/5, 7/6, 20/6, 22/6, 29/6; WT, 5/4, 12-14/4, 15/5, 19/5, 25/5, 23/6, 27/6; IHT, 7/4, 14/6, 23/6; LT, 7/4; LAT, 9/4, 18/4, 19/6; People's Daily, 10-12/4, 28/4; China Daily, 12/4, 19/4, 10/5, 28/6; SCMP, 14/4, 21/4; CSM, 20/4; LT, 1/5; Sydney Morning Herald, 4/5; USA Today, 8/5; Nikkei Shimbun, 11/5; E, 20/5, 27/5; Baltimore Sun, 26/5; US Department of State, 20/6, 27/6; DJ, 29/6; Jerusalem Post, 29/6; Far Eastern Economic Review, 30/6)

- A senior Communist member of the **Japanese Diet** claims to have obtained the text of a secret agreement between his country and the **United States**, called 'Mutual Cooperation and Security Treaty: Discussion Record', of January 1960. This is said to provide that the "passage and tentative porting of US aircraft and ships" would not be included among "important changes in the deployment of US forces in Japan" about which Tokyo should be consulted. Supposedly, for 40 years this formulation has allowed US nuclear weapons to be brought into Japan, in breach of its 'three non-nuclear principles'. The Japanese government has denied the existence of such an agreement. (YOS, 14/4)
- In the **United States**, the controversy over the deployment of the 'National Missile Defense' (NMD) is becoming ever more acute. Supporters, especially in the Congress, appear undeterred by recent disclosures about technical problems and rising costs. In early April, after the announcement by Air Force General Kadish, the officer commanding the Ballistic Missile Defense

Organization (BMDO), that two intercepts were no longer considered a requirement for NMD deployment, Republican Senator Hutchinson of Arizona suggested the adoption of a 'Sense of the Senate' amendment to the budget resolution, stating that all of the system's components had been "demonstrated to be technologically possible by the Integrated Flight Test Program". Accordingly, because President Clinton had said that he would not make an affirmative deployment decision until criteria of threat, cost, impact on arms control and technological feasibility had been met (criteria not specifically listed in the National Missile Defense Act of 1999), the text proposed said that "the President is knowingly and willfully violating both the letter and the spirit of [the Act]". In May, the House of Representatives adopted a Sense of Congress Act which states that "An effective National Missile Defense system is technologically feasible" and its deployment is justified by the missile threat 'rogue nations' are capable of posing.

As the deadline nears for a Presidential decision on deployment, and development work intensifies, there are a growing number of press reports about newly identified problems that must be overcome before the project can be realised. Experts have pointed out that of 19 tests foreseen in the flight test programme, only two have so far been conducted. Of these, one failed and the other was "an ambiguous success". The booster rockets used in both tests are said to have been specially prepared prototypes, as will be the one used in the next test. These experts point out that in 1999, an independent panel of experts appointed by the Pentagon had warned about a "rush to failure" in the development of ballistic missile defences. That warning was repeated in June by DoD's director of operational test and evaluation. In an internal report, this official is said to have called the technology "rudimentary" and largely unproven; to have called the testing insufficiently realistic; and to have questioned the hasty schedule which, as he is supposed to have said, takes for granted the production of novel components that are extremely hard to manufacture; construction in arctic weather; and obtaining permission from Europeans opposed to the scheme for the installation of radar sites on their territories.

BMDO's General Kadish has acknowledged that the tight schedule presents a "high risk". Kadish has revealed that, so far, most of the test of the radars, interceptor missiles and high-speed computers that will make up the NMD system have been done by computer simulation and have relied on hypothetical data rather than on actual test results. He has said that it will not be until around 2004 that all elements of the system can be tested together; at that time, a decision could be taken on whether to put it on full alert.

In mid-May it became known that a problem had arisen with a transmitter designed to monitor the test intercept which — after several postponements — had been rescheduled for 26 June. That test was to be the last one before the President, on the basis of a recommendation from the Secretary of Defense, would decide whether deployment of the system was warranted. The problem was said to necessitate a further delay. This was said to worry the Pentagon, if only because, under an agreement

with the Marshall Islands to protect fishermen, if that test was not made before 12 July, it would have to be put off again by a month. This would have made it unlikely that the Secretary of Defense would have enough time to make a recommendation to the President based on a thorough review of the data and consultations with military authorities. The test, which, as reported, will involve "a simpler system", is now scheduled for 7 July. According to reports shortly before this issue of the *Newsbrief* went to press, if this test is a success, President Clinton would be likely to give a "limited green light" to NMD which, as Washington is said to argue, would not violate the Anti-Ballistic Missile (ABM) Treaty of 1972, but would enable some preparatory work to start.

In a speech on 17 May, the President had said that he expected "later this year" to take the decision whether to deploy NMD "next Spring". He listed once again the four factors he would take into account, stressing in the first place the question whether "...this technology [has] really proved it will work". He also named as one criterion the US' relationship with its allies "around the world".

Reports about formidable technical hurdles facing the development of NMD come from both opponents and supporters. Among technological requirements is an advanced 'X-Band' radar installation which would be constructed on the island of Shemya, off Alaska, which is said to be only rarely accessible. Supposedly, construction would have to be started in early 2001 to meet the 2005 deadline set for initial operational capability. Transport of heavy equipment and material for the installation would require favourable sea and wind conditions, as would the installation of some of the support structures, but these occur only during a brief part of the year. Apparently the BMDO uses considerations such as these to press for an early deployment decision. The "limited green light" decision referred to would, reportedly, allow construction material to be taken to Shemya in March and April next year: months during which the seas are said to be relatively calm.

As now foreseen, NMD would grow in four steps from 20 missile interceptors in 2005, to 250 in 2011. As reported, once the system is complete, it would need two, and possibly three launching sites; three command centres, five communications relay stations, 15 radars, 29 satellites, including space-based sensors, and 250 missile silos. Within the US, it would eventually be based on five or six states. Overseas, early-warning radars would be established or upgraded in Greenland, Japan, the RoK and the UK.

Among technical details of the 'limited' NMD system which the Pentagon currently envisages to build that are said to have been revealed to Russian officials whom the US has consulted on possible adjustments of the ABM Treaty, was the calculation that the 100 non-nuclear interceptor missiles which would be deployed in Alaska would at best be able to destroy 20 to 25 incoming warheads equipped with "relatively primitive" penetration aids. While that ratio is said to be classified, the figure given would be in line with the (reported) operational requirements of four to five interceptors for each re-entry vehicle. The argument was said to have been that this could pose no threat to Russia, which would

at any time be able to overcome the system in a massive missile attack — the number of 1,000 missiles was mentioned — launched upon warning. These arguments have led supporters of nuclear arms reduction to comment that Washington is encouraging Russia to revert to a highly risky strategy, assumed to have been relinquished at the end of the Cold War. They also see the US' reasoning as based on the assumption that for the indefinite future both sides' nuclear arsenals would remain large, which goes against their commitments under the NPT.

Analysts have noted that the 'limited' NMD system would suffice to neutralise China's current long-range arsenal. China claims that NMD is primarily intended to contain its nuclear forces rather than those of the 'rogue states' which, it says, do not have the intercontinental-missile capability to threaten the US. China is widely expected to respond by converting some of its missiles to carry independently-targeted re-entry vehicles (MIRVs), but the US Administration is thought to be convinced that even if there were no NMD system, China would upgrade its nuclear weaponry. Washington claims to have found support for this view in the statement of 10 May by China's senior disarmament negotiator, Sha Zukang, that America's plans to erect an anti-missile shield over its territory posed an unacceptable threat to China's security "and might force it to significantly expand its own strategic nuclear arsenal". Forty-five American China experts have urged the President to delay a decision on NMD on the ground that the system would adversely affect Sino-US relations and provoke China to take steps that would undermine American security. US Defense Secretary William Cohen plans to travel to Beijing in July to discuss this issue.

In May, Chinese and Russian strategic experts had a meeting in Moscow that ended with the joint reaffirmation of opposition to any amendment of the ABM Treaty. Also in May, word came that the CIA had prepared a National Intelligence Estimate, according to which constructing NMD could have destabilising effects around the world and trigger a build-up of strategic and medium-range nuclear missiles by China, India and Pakistan. The report was understood to confirm the view that China could be expected to respond by 'MIRV'-ing its strategic warheads and deploying new road-mobile medium-range ballistic missiles. This would prompt India to build up its nuclear arsenal, which would give Pakistan cause to do likewise. The classified report was also said to note that the missile threat from the DPRK had decreased, following the freeze by that country of its missile-testing programme. It is supposed also to suggest that Iran's missile programme is now dormant.

In recent weeks, the Commander-in-Chief of Russia's Strategic Rocket Forces, Vladimir Yakovlev, suggested that in an asymmetric response to the US establishment of a limited NMD system, Russia should leave the Intermediate-range Nuclear Forces Treaty (INF) of 1988. Both he and the Secretary of the Russian Security Council, Sergei Ivanov, have said that Russia should consider resuming construction of medium-range missiles. Yakovlev has also said that if the US sets up an

NMD system, Russia should increase the number of warheads on its strategic missiles

The attitudes of the US' NATO partners to American NMD plans are described in the international press as ranging between carefully neutral and strongly opposed. NATO's former Secretary General, Javier Solana, now responsible for the international relations of the EU, has warned that if the anti-missile shield is not extended to Europe, this may lead to 'decoupling' and a break in military ties. He has stressed that the American move should neither strain trans-Atlantic links nor provoke a major crisis with Russia. During President Clinton's visit to Germany, in early June, that country's Federal Chancellor, Gerhard Schröder, echoed doubts shared among European governments about the political wisdom of jeopardising the integrity of the ABM Treaty for the sake of a defensive system of which the feasibility is unproven and which is designed to address a threat which many European states see as far-fetched and in any case not aimed at them. European officials are quoted in the press as questioning America's commitment to arms limitation. Some are also said to doubt that parliaments, seeing how much money is expended by the US on what they see as a phantasmagorical defence against an illusory threat, will be found ready to increase their defence budgets for the purpose.

During his June visit to Europe, President Clinton was said to have tried to convince governments of the advantages of NMD and to have offered to share the technology with Russia as well. For several weeks before the visit, US Pentagon officials had met with European diplomats to promote an anti-ballistic missile system to shield most of the continent, with interceptors possibly based in the Czech Republic. They were also said to have discussed the possibility of installing an expanded ballistic-missile shield to cover all of Europe, including sea-based interceptor vehicles to protect Turkey as well.

Initial reactions seem to have been cool; some European leaders expressed doubt that there is, or will soon be, a threat that would justify the expense of participating in an anti-missile system. Among states that were reported not to have taken favourably to the American approach was France, whose independent nuclear capability might be made redundant by an anti-ballistic missile system. Besides Chancellor Schröder, other German officials have been quoted as saying that NMD would weaken European defence and as accusing the US of grossly overstating the threat. US reactions are said to have played down the differences of view and to have pointed out that a decision to deploy NMD would ultimately be dictated by US national interests.

In late June, NATO's Secretary General Lord Robertson said that NATO alliance leaders still had questions concerning the actual missile threat, and were "counting on that the views of America's allies will be a crucial element in any [US] decision" later this year to deploy NMD. He said that NATO acceptance of an American NMD system must be examined in the light of the proposal by Russia's President Putin for a missile shield for the European Continent which, Robertson was quoted as saying, appeared to endorse the US threat assessment.

The issue of NMD has remained a matter of fundamental disagreement between Russia and the US. The former is said to fear that the deployment of a missile-defence system would threaten its deterrence potential and disrupt strategic stability. Moscow has repeatedly expressed strong opposition to US proposals to amend the ABM Treaty, which it sees as the mainstay of the arms-limitation structure. It is also said to be concerned that a modest modification of the Treaty to permit the deployment of a limited anti-missile system would open the door for further American demands, to permit the deployment of a more ambitious system. This concern appears to be worsened by the consideration that, as reported, Russia's satellite-based early warning system has great gaps. Thus, the detection of missile launches from US Trident submarines, which are seen as the most lethal of American capabilities, is said to have become very difficult if not impossible. It is known also that Russian satellites are no longer able to monitor US nuclear forces around the clock, while the US is thought to have greatly improved its radar assets. Arguments along these lines, however, are discounted by some intelligence reports to the effect that Russia's limited missile defence capability near Moscow is more proficient than is generally assumed, especially since Russian anti-ballistic missiles kill vehicles carry nuclear warheads.

In a speech to the 2000 Review Conference of the Non-Proliferation Treaty, held in New York in April and May, Russia's Foreign Minister Igor Ivanov said that US plans to build a missile defence system would "destroy" the ABM Treaty, and that by seeking modifications to the ABM Treaty, the US was putting the entire structure of disarmament agreements in jeopardy. Earlier discussions on adaptations of the ABM Treaty, conducted in a series of sub-cabinet-level meetings, had apparently not brought them any closer to a compromise.

During a visit to Washington shortly before the June summit in Moscow, Ivanov was reported to have received the assurance from President Clinton that his Administration was committed to preserving the ABM Treaty. In a public statement, Ivanov repeated that the ABM Treaty must remain as a cornerstone of strategic stability. As an alternative, and in anticipation to similar offers made by Russia's President, Ivanov was reported to have offered his country's cooperation in a theatre missile defence scheme that would be designed specifically to protect against medium-range ballistic missiles launched from the DPRK. Informal American reactions were that such a system would do little or nothing to defend the US mainland.

The American negotiating position on the adaptation of the ABM Treaty has been disclosed through the publication in the US press of the document supposedly presented to the Russian Federation. This contains proposals for amendments to the Treaty in the form of two protocols providing for the first phase of the NMD system and for verification means of the system's missiles and radars. Textual proposals were accompanied by a document setting out the underlying rationale. The revisions of the ABM provisions would have an Article I that permits the deployment of a limited NMD system as an alternative to the deployment of ABM systems, and

an Article II, specifying that the alternative system would be permitted within the limits of one ABM system deployment region, for no more than 100 launchers and 100 interceptor missiles with a radius of no more than 150 kilometres; the proposal also specifies that existing long-range radar may be enabled for use as ABM radar to support NMD, and that each party may deploy one additional radar within its territory. Article III would say that existing operational ABM launchers must be dismantled. Apart from some further procedural provisions, the protocols are also said to include a requirement that "at the demand of one party, the parties shall begin further negotiations no sooner than March 1, 2001, to bring the treaty into agreement with future changes in the strategic situation".

In late April, Pentagon personnel gave a briefing for senior Russian political and military officials, with the apparent intention of convincing them that the NMD system as envisaged in Washington would not upset the strategic balance nor in any way endanger Russia's deterrent potential. US officials were also understood to have held out incentives, such as giving Russia access to radar facilities, helping it construct an early-warning radar system, and assisting in the upgrading of its satellite network for monitoring missile launches.

In the run-up to the summit meeting in Moscow, predictions about the chances of Russia's accepting these proposals varied. Washington officials said they had seen signs that Russia might be willing to give them serious consideration, although senior Russian officials had expressed only negative views on the issue and President Putin had never publicly indicated a willingness to enter into negotiations on an adjustment of the ABM Treaty. In late May, earlier expectations among American officials that the US President might be able to elicit a positive response when visiting President Putin in June were said to have been scaled back to the point where comments from the White House indicated that the meeting would not be "an arms-control-only summit". Reports from Moscow also indicated that any Russian willingness that might have existed to compromise on this issue seemed to have lessened, given the growing criticism of NMD in the US, and the possibility that another Democratic Administration would not go beyond the limited phase of current NMD plans, and perhaps even put off deployment indefinitely. Under the circumstances, expectations in Washington were that, at best, Moscow might express willingness to discuss — besides bilateral cooperation in nuclear non-proliferation and related areas — ABM amendments in conjunction with talks on START III and with American acceptance of a low-level (1,500?) of deployed strategic warheads.

As matters turned out, the Moscow summit in June did little or nothing to narrow the differences between the two states. While there was agreement on the disposition by the Russian Federation and the US, of 34 metric tons of weapons-grade plutonium each, and on the establishment of a joint centre in Moscow to share early warnings about missile launches (see above, pages 9–10), there was no consensus on an adjustment of the ABM Treaty that would permit the US to deploy a limited NMD system. President Putin stated once again, that Russia opposed the changes proposed by the US. He did say that he was

willing to continue working on the issue with the next American President.

As a first move in what was seen as the start of a campaign to gain European support for a non-strategic missile defence compatible with the ABM Treaty, the Russian President, in an interview on US television shortly before President Clinton's visit, proposed the creation of a cooperative boost-phase anti-ballistic missile system. Over the next few weeks he repeated this proposal on several occasions. Visiting Rome soon after his meeting with President Clinton, Mr. Putin spoke more specifically of a joint Russo-American-European missile defence effort against hostile missiles in their launch phase, based on short and medium-range missiles. After a meeting in Berlin, in June, between Mr. Putin and Germany's Chancellor Schröder, the latter was said to have given "cautious backing" for the Russian missile-defence proposal. In a newspaper interview published in Germany Putin called on countries like Denmark, Norway and the UK not to cooperate with the US on NMD, saying that the price could be "very high".

At the same time, Russia's Defence Minister presented the plan to NATO defence chiefs in Brussels, expanding somewhat on the Russian President's proposal. NATO members were said to have "cautiously welcomed" the proposal as a sign that Russia was willing to cooperate with the international community. A NATO spokesman was not ready to comment further until Moscow offered more details. US Defense Secretary Cohen, who has discussed the issue in Moscow, has expressed doubt about the ability of the system proposed there to offer adequate protection to the US or most of Europe. Meanwhile, however, Gen. Kadish, the head of BMDO, has said that his organisation is reviewing "a variety of options" to cooperate with Russia on missile defence, but a senior Pentagon official has said that such cooperation would be complementary to US efforts and would not replace NMD.

In various European capitals the Russian proposal was seen less as an attempt to gain support for a new multilateral approach from states that were dissatisfied with America's unilateral initiative, than as a move to discourage European support for the US missile defence plans. American as well as European observers were cited as expressing doubt about the feasibility of the Russian scheme which, as noted in Washington, while designed to cover all of Europe and the Asian part of Russia, seemed to leave it to the US to protect its own territory. Many commentators expressed satisfaction at Moscow's recognition that there existed a missile threat from certain unpredictable nations (albeit that in Russia and Western Europe this threat was seen as less immediate than in the US), and at the cooperative spirit reflected in the Russian proposal. More recently, however, senior Russian military officers have published the view that there is no acute missile threat from the states listed by the US and that, as Russia's Defence Minister Igor Sergeyev has said, the true reasons for the US to build NMD is a quest for strategic domination.

Shortly after the Moscow summit President Putin announced he would visit Pyongyang. European observers attached significance to this because they said

it made the point that Russia saw diplomacy as a more appropriate way to deal with potential threats than missile defence. They also saw it as a challenge to America's attitude towards countries it depicted as 'rogue states' [a term, the US Secretary of State announced on 19 June, would no longer be used in referring to the countries concerned. Henceforth, they would be called 'states of concern', - Ed.] US officials expressed the hope that Putin's visit — which is expected to take place in mid-July — would help make the DPRK willing to curb its missile tests.

Russia and the US are said to plan joint exercises of their defences against short- and medium-range missiles. The exercise, planned to be held at Fort Bliss, in Texas, during the current year, are intended as a rehearsal of ways to coordinate Russian and American missile defences. They would involve the Russian S-300 and the US Patriot missiles. According to American sources, Russia's interest in the exercise is based on its wish to advocate theatre missile defence as an alternative to NMD. It is also said to be interested in working with the US on developing a new intercept system, S-500, that could be used in a boost-phase anti-ballistic missile system.

As the moment for a decision on NMD deployment grows closer, the number of scientists and foreign policy experts publicly opposing current NMD policies is increasing. On 12 June, 33 university professors, former diplomats and members of research institutes sent a letter urging the President not to endorse deployment of NMD, as this might undermine US security and aggravate relations with Russia. The same day, 40 physicists and engineers under the aegis of the Union of Concerned Scientists (UCS) told the Congress that the proposed NMD system is flawed and should be shelved.

Statements by the front runners in the American presidential campaign reflect the respective positions of Republicans and Democrats. Republican hopeful Governor George W. Bush of Texas would give priority to the deployment of a US anti-ballistic missile shield and has said that he would "scrap" the ABM Treaty if Russia rejected the changes to that treaty necessary to enable "a robust NMD" to go forward. He has called the Treaty — which conservative Republicans in the Senate have long opposed — "a Cold War relic". The Democratic contender, Vice-President Al Gore, supports the Administration's approach, viz, if the President's conditions are met, this Summer, and a decision is taken to employ an NMD system, efforts to prevail upon Russia to agree with modest alterations to the ABM Treaty should go on, so that a 100-missile defence capability can be put in place in Alaska by 2007. In a recent interview Gore said that it would be useful to have a "very limited" NMD system that would not destabilise Russia or China and could be accomplished with "relatively small changes" to the ABM Treaty. He also still saw a possibility of Russian acquiescence to such changes.

Estimates of the cost of the deploying the system keep rising. Officially, the first phase is now expected to amount to \$25.6 billion up to 2026, which would be \$6.4 billion or 27 per cent above the initial estimate. A Pentagon spokesman has said, however, that the cost may increase further. Opponents claim that the earlier

estimates were deliberately kept low to help gain support for NMD. The Congressional Budget Office (CBO) said on 25 April that the first phase of the NMD system would cost \$29.5 billion through 2015, i.e., \$3 billion more than the Administration had said earlier. Republican critics of the US Administration's NMD proposal are being quoted as saying that even at its current 'limited' level, it is "grossly underfunded". The second phase, which would use satellites to track powered-flight missiles and missiles gliding through space, and the third phase (to focus on missile threats from Iraq, Iran and Libya), and which would involve another 150 interceptors sited in North Dakota, would add \$6.1 billion and \$13.3 billion, respectively. An additional \$10.6 billion would be needed for space-based sensors. Thus, a 250-missile, third-phase, system would cost \$48.5 billion, and together with the early-warning system, total costs would run to approximately \$60 billion, i.e., double the estimates published by the Pentagon.

The Pentagon has commented that the CBO's estimate relates to a more robust system than DoD had "costed-out". Experts from the Council for a Livable World and the Coalition to Reduce Nuclear Dangers estimate, however, that through 2015, the cost of the robust NMD system preferred by Republicans, which would involve land, sea and space-based interceptors, would be "at least" \$120 billion (counting the \$60 billion for the 'limited' scheme): \$14.5-17.5 billion for placing interceptors on Aegis ships (Pentagon estimate of 1999); space-based lasers \$27.5 billion (CBO) and space-based interceptors \$18.25 billion.

A group of Republican supporters of a 'robust' NMD system, who seek to avoid having the more modest Democratic approach "locked in" prematurely, are said to try having the deployment decision put off until after the end of the current presidential term. Other NMD backers contend that the Administration has "dumbed-down" the programme by ignoring the promises offered by a space-based defence. A group of Congressmen are also raising legal arguments which they claim invalidate the way in which the White House is seeking to obtain modifications to the Treaty. They call for the termination of attempts to modify the ABM Treaty, and propose that, instead, the government should pursue high-level "Defense and Space Talks" with Russia, so as to achieve "cooperative transition to the deployment of missile defenses".

With respect to the changes in the ABM Treaty which the US is reported to have proposed to Russia, a letter to the President from 25 Republican Senators, including majority leader Trent Lott and the Chairmen of the Appropriations and Armed Services Committees, warned on 17 April that "any agreement along the lines you have proposed would have little hope of gaining Senate consent ...". The sole fact that Senate Foreign Relations Chairman Jesse Helms is also opposed to the President's limited approach was seen to be a virtual guarantee that no agreement with the Russian Federation that would permit only limited NMD deployment will receive the consent of the Senate. This threat hardened on 26 April when Senator Helms said that his Committee would not consider any arms agreement that this Administration negotiates in its final months in office,

nor would it consider any such commitments binding on the next Administration. Specifically regarding the ABM Treaty, Helms stated that "[a]ny modified ABM Treaty negotiated by this administration would be DOA, dead on arrival, at the Senate Foreign Relations Committee".

Republicans also claim that the US has never recognised Russia as the sole successor to the Soviet Union in respect of the ABM Treaty and that, moreover, the US itself is no longer a party, so that to all intents and purposes the Treaty no longer exists, and negotiations about changes are irrelevant. Experienced international and constitutional lawyers with arguments have identified many reasons why these contentions are fallacious, such as the fact that in January 1992 the US formally recognised Russia as one of the successors of the USSR for the ABM Treaty and that a Memorandum of Succession was signed in September 1997. These specialists deny that there is any legal issue regarding the enduring validity of the ABM Treaty.

[The fallacy of claims to the effect that the US is no longer a party to the ABM Treaty or that the Russian Federation is not the successor state to the Soviet Union for the purposes of that treaty is demonstrated *ipso facto* by Senator Helms' introduction of a bill in February 1996 (referred to in *Newsbrief* no. 33, p. 2) that would mandate the US President to "give notice to the Russian Federation of the intention of the United States to withdraw from the Anti-Ballistic Missile Treaty, as permitted under article XV of that Treaty". The bill never became law — Ed.]

Comments from the White House and the State Department have indicated that the Administration will continue nevertheless to seek adjustments in the ABM Treaty and go on pressing for new arms-control agreements. Observers have noted that the President faces an intractable problem, with the Senate likely to reject any deal he might make with Russia with regard to the ABM Treaty, and Russia unable to accept any arrangement of a kind that the Senate would agree to. This is also thought to pertain to the "package" of agreements that were concluded in New York in 1997 among Belarus, Kazakhstan, Russia, Ukraine and the US, to enhance the prospect for Russian ratification of START II and clarify issues pertaining to the ABM Treaty. This package consists of the START II Protocol and Associated Agreements, extending the time period for the completion of START II reductions by four years; of an exchange of letters on early deactivation of Russian strategic nuclear delivery vehicles covered by the Treaty; and of a joint agreed statement about the removal of warheads from Minute Man III ICBMs before the agreed deadline. The package further includes a Memorandum of Understanding on succession to the ABM Treaty which the US President similarly agreed to submit to the Senate, together with the START II documents. Lastly, it contains two Agreed Statements on Demarkation and an agreement on confidence-building measures, as well as revisions in the operating regulations for the ABM Standing Consultative Commission in connection with the succession under the ABM Treaty of four newly independent republics to the USSR.

Over the last several months, legal studies are known to have been conducted at the behest of the White House,

on the preparations for NMD that could be made without infringing the provisions of the ABM Treaty. According to press reports, a classified legal analysis has concluded that there are a range of practical steps towards the construction of the infrastructure for the project, including launching sites and radar installations, which the Administration could take without violating the Treaty. The conclusions are said to go far beyond the limits thought to prevail under the Reagan Administration and also exceed the assumptions so far held in Washington.

There are a growing number of reports that allege the existence of serious flaws in the technical approach adopted in current NMD plans, particularly with the manner in which various components of the system are tested. The American Physical Society has characterised the test programme as falling far short of what the President needs for his decision to proceed with NMD. The Society has said that no decision should be taken unless the system is shown to be effective against the types of counter measures an attacker could be expected to deploy. Along the same lines, the UCS and the Massachusetts Institute of Technology (MIT) have jointly issued a major study presenting technical evidence that NMD could be easily defeated by countermeasures and that the current NMD test programme is incapable of assessing a system's effectiveness against a realistic attack. The study was carried out by a panel of eleven independent senior physicists and engineers, including senior defence consultants to the US government and nuclear weapons laboratories, and former members of the Defense Science Board, the Commission to Assess the Ballistic Missile Threat to the United States (Rumsfeld Commission) and the Lockheed Martin Corp. According to the study, a country able to mount a missile attack against the US would also be able to use well-known counter-measures such as subdividing warheads into small bomblets that would overwhelm the defence with many targets; concealing the warhead inside a balloon and releasing dozens of decoy balloons; or cooling the warhead with liquid nitrogen to foil the heat sensors of the kill vehicle. The scientists' report noted that US intelligence had reported in the Autumn of 1999 that China had developed such counter-measures and that the DPRK, Iran and Iraq — the 'rogue states' against which the system is ostensibly intended — could reasonably be expected to do so as well. Like those who, more than 30 years earlier, analysed the capabilities of the 'Sentinel' missile shield then under discussion, the participating scientists concluded, therefore, that it would make no sense to begin NMD deployment. A Pentagon spokesman rejected the arguments, saying that "... the system we are developing will be effective against the envisaged rogue [missile] threat of 2005".

Shortly after the UCS/MIT study came out, there was a report that a number of former senior Pentagon officials had also advised President Clinton to drop the NMD plans, calling them expensive, unworkable and politically unwise. They advocated instead to build a ship-based system to intercept missiles during the boost phase, as was subsequently also proposed by Russia's President Putin.

In early May, Dr. Theodore A. Postol, a specialist in science and national security studies at MIT and an opponent of anti-missile defence, wrote to the White House, calling for an investigation of his conclusion that the Pentagon had fraudulently covered up information that a test in 1997 had demonstrated the impossibility of hitting a speeding target with an interceptor vehicle, and that none of the interceptor missiles launched since then had been able to distinguish between incoming warheads and decoys. Following up on disclosures by a senior engineer who used to work for TRW Corporation, a major contractor for the NMD project, that her firm systematically falsified test results in regard to the 'discrimination technology' at issue, Dr. Postol claimed that, in fact, the available discrimination technology is inadequate for the purpose. Shortly after the existence of his letter was reported in the press, the US DoD classified it as secret, presumably so that no further public discussion of its contents could take place. The contents of the letter were said to have already been widely circulated, however, *inter alia*, through the Internet. Dr. Postol has again written to the White House, protesting this second attempt at a cover-up. His letter was followed by a statement from the BMDO, that "... the information on which [Dr. Postol] based his claim is incomplete and his conclusions are wrong." Pointing to various elements of the antimissile system besides the interceptor under discussion, the statement said that Dr. Postol was not considering all the capabilities of the system.

In the week of 19 June, Dr. Postol received a surprise visit in his office at MIT from three agents of the Pentagon Defense Security Service, who sought to show him some papers marked "SECRET". Postol was quoted in the press as saying that in 1991, the Army had wished to incriminate him by classifying his critical analysis of the performance of the Raytheon Patriot missile in the Gulf War. Reportedly, therefore, this time he deliberately avoided looking at the papers, fearing that if he did, he might risk being accused later of talking about classified information. There is a widespread impression that the visit was indeed an attempt at the kind of entrapment the US government is said to have practised on a number of occasions.

In court documents filed in connection with the suit brought by the former TRW engineer, the Pentagon's Defense Criminal Investigation Service is also understood to have found that "the discrimination technology ... does not, can not, and will not work". The Service is said to have completed a three-year probe of the allegations without taking action, but stating that "numerous technical discrepancies ... warrant further review".

Responding to Postol's allegations, BMDO officials have noted that the kill vehicle now in use is made by Raytheon, rather than by TRW, which was the employer of the engineer who made the allegations of fraud. Postol has pointed out, however, that the kill vehicles manufactured by both companies similarly rely on fluctuations in the brightness of light emanating from the target. According to Postol, in space these phenomena are similar for both light and heavy objects and discrimination cannot be based on a simple measurement of the fluctuations in brightness. As a result, even simple

decoys will greatly reduce the probability of intercept so that the defence can readily be defeated by the most technologically primitive adversary.

The publication of these conclusions was followed by experts' allegations — made in a series of newspaper interviews and reportedly substantiated by designers of missiles and decoys and at least one senior Administration official — that all flight tests of NMD kill vehicles have been rigged to hide the inherent flaw in their capacity to discriminate between warheads and decoys. Reportedly, a testing plan of the Pentagon obtained by Postol indicates that in the four NMD tests that have taken place since June 1997, as technical difficulties became more obvious, the more realistic decoys would be replaced by fewer and more easily distinguishable alternatives. While supposedly increasing the chances of hitting the target, this deliberate policy of making it easier for kill vehicles to discern and hit their targets is understood to have detracted greatly from the value of test results. Yet, only the test of October 1999 was seen to have been even partially successful.

In its response to Postol's assertions, DoD first denied that it had engaged in a deliberate cover-up or of a "dumbing-down" of the tests. Soon after, still denying any dishonest manipulation, it admitted that it had been using simpler decoys in its recent flight tests. It claimed, however, that the system was to be used against crude warheads with simple decoys, and that it expected to resolve any outstanding problems. Expert commentators maintain the view, however, that any country capable of building intercontinental ballistic missiles can master the relatively simple technology of equipping them with a variety of effective decoys and that by the time NMD should be deployed, they may be expected to have more sophisticated countermeasures. The Pentagon's standard answer to this claim is that "these people" are building their analysis on "very incomplete data" and that the tests involve exactly the sort of decoys "the intelligence community says we are most likely to face". However, in a still unreleased report of 31 May, the General Accounting Office (GAO) — an independent body operating under the aegis of the US Congress — is known also to have said that it will be several years before the current test programme will be able to give a realistic picture of whether the system can reliably intercept incoming missiles. In this context, a senior Pentagon official said in late June that even if the 7 July test fails, DoD may recommend that the NMD system be built since, "[d]epending on the type of failure, we may still be able to say it's technically feasible".

The latest in a long series of scientific analyses is said to be contained in a classified report made for the Pentagon by the same twelve weapons scientists and former military officers whose 1999 warning against "rushing to failure" is referred to above. The report is said to "mix cautions and encouragement". It reportedly expresses confidence that the system will work "eventually", but identifies a number of technical problems justifying strong skepticism that it could operate successfully by the 2005 deadline. As reported, the Pentagon sees the report as supportive of the effort, but some officials are quoted as expecting that critics will be able to use it in evidence against the project. In Senate hearings the panel's

chairman, retired US Air Force General Welch has said that 2005 is "feasible" as the year for NMD deployment but not "most likely". He has pointed out that the actual ground-based interceptor has not yet been flight tested and is behind in development and that construction of the ground-based radar installation at Shemya will be difficult.

In the US Senate, a draft amendment to the 2001 Defense Authorization Bill sponsored by five Democratic members is being considered that would require DoD to test the NMD system against likely countermeasures. The amendment would require the Pentagon to establish an independent panel to review the testing. The text is based largely on arguments provided by USC. In the House of Representatives, 53 Democratic members have urged the FBI to investigate allegations of fraud and cover-up in the development of NMD. They too have said that the limited testing conducted by the Pentagon is inadequate to ensure a viable system.

NMD is seen by the US business community as providing huge commercial opportunities, with wide potential spin-off for the civilian sector. A range of US defence contractors are involved in the development and manufacture of a great variety of components of anti-missile systems and related technologies. This follows ten years of intensive lobbying, during which arms manufacturers are said to have donated \$49 million in campaign contributions to Washington politicians, and to have spent several millions more on public relations. A number of firms are known to have made large gifts to conservative research centres that promote missile defence, and are represented on their boards.

In May, the BMDO announced that a tactical high-energy laser developed jointly by Israel and the US to hit incoming rockets had been tested successfully against a stationary target. In June, the laser was tested against a moving warhead, which it succeeded in bringing down. The development is seen as being of potential, long-term relevance, because it may lead to advanced anti-missile techniques. The US Air force is said to be working on a large laser mounted on a jumbo jet and is also reported to have plans for a system that would intercept ballistic missiles and "kill" hostile satellites from space. As reported, the Space-Based Laser Integrated Flight Experiment, would involve a huge chemical laser which would be placed in space by a heavy-lift Evolved Expendable Launch Vehicle. The work would be done jointly by the air force and the aerospace firms of Boeing, Lockheed Martin and TRW.

Another device said to be under development for the US Air Force is an engine for a small prototype reusable aircraft-like system that can stay in orbit for up to one year. The "Space Maneuver Vehicle" would be the upper stage of a device designed for various "space control missions" such as attacks on adversary satellites, selective precision strikes, and ballistic missile defence. The system would be able to strike world-wide targets using a Common Aero Vehicle (CAV): a 1,000 lb hypersonic glide vehicle "penetrator". Reportedly, several major American arms manufacturing companies are working on different versions of the orbital system and of related devices.

There is said to be growing interest among American politicians from both major parties in the possibility of adopting a sea-based "boost-phase" missile defense system of the kind now being developed for the US Navy. Republican Representatives in Congress have asked Defense Secretary William Cohen to produce an analysis the Pentagon is thought to have made, in which the US Navy and BMDO conclude that "there is no technical reason preventing the evolution of the Navy Theater Wide [anti-ballistic missile] system into a National Missile Defense". These Congressmen are seen as attaching great importance to this conclusion, because, they claim, the changes on which the present Administration is trying get Russia's consent deliberately excludes sea-based missile defence capabilities which are "needed to provide comprehensive protection of the American people". The development of the system they refer to, the Navy Theater Wide anti-missile system (NTW), is said to be less far ahead than is that of NMD. The US Navy has called for the main contractor, Raytheon, to deliver the first 80 missiles by 2010. According to the GAO, this may be too early for the weapon to have undergone rigorous operational tests. A problem of NTW is said to be the complexity of its guidance system, which makes it difficult to control. The programme is said to face delay also because the material used in the thrusters that position the warhead for a strike cannot, it seems, withstand the high temperatures involved. The US Navy has let it be known that it considers the fact that this flaw was discovered in a ground-based test to be "really good news".

The US Congress is said to be keen to have NTW in place as soon as possible, but questions have been raised, both in the Senate and within DoD, about a realistic schedule. There is said to be a possibility that the many problems found with NMD and the potential advantages of a boost-phase approach, combined with the consideration that this would be less likely to evoke Russian resistance, may lead to a shift in emphasis towards NTW and away from NMD.

(LAT, 2/4, 26/4, 10/5, 19/5, 4/6, 21/6; **Defense Week**, 3/4, 1/5; **Chicago Tribune**, 5/4; **Inside Missile Defense**, 5/4, 17/5; **US Senate Amendment No. 2920**, 6/4; **www.space.com**, 7/4; **NYT**, 12/4, 22/4, 25-29/4, 1/5, 2/5, 4/5, 11/5, 12/5, 18-20/5, 25/5, 26/5, 28/5, 31/5, 2-6/6, 8/6, 9/6, 11/6, 14/6, 15/6, 18/6, 23/6, 29/6, 30/6; **WP**, 12/4, 19/4, 26/4, 27/4, 29/4, 10/5, 17/5, 19/5, 1/6, 6/6, 10/6, 11/6, 13/6, 15/6, 18/6, 21-23/6, 28/6, 30/6; **Carnegie**, 14/4; **Aerospace Daily**, 17/4, 23/6, 27/6; **Defense Daily**, 18/4, 20/4, 31/5, 6/6, 23/6, 30/6; **WSJ**, 25/4, 12/6; **RFE/RL**, 26/4, 7/6, 22/6; **ABC News On-Line**, 27/4; **USA Today**, 27/4; **White House Daily Briefing**, 28/4, 1/5; **R**, 29/4; 4/5, 8/6, 9/6, 28/6; **CNN On-Line**, 30/4; **Arms Control Today**, May; **Chicago Tribune**, 3/5, 11/6; **Newsweek**, 8/5; **Time**, 8/5, 16/6; **US News & World Report**, 8/5, 12/6, 3/7; **WT**, 12/5, 7/6, 10/6; **Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001**, 16/5; **If**, 16/5, 7/6; **President Clinton's Speech to US Coast Guard Academy**, 17/5; **PIR Center**, 30/5; **Newshour** (PBS-TV Ch.13, NY), 31/5; **San Diego Union-Tribune**, 2/6; **E**, 3/6; **AFP**, 6/6, 9/6; **DT**, 6/6; **US Department of State**, 6/6, 19/6, 29/6; **Bloomberg** [News Agency], 7/6, 10/6, 16/6; **CSM**, 8/6; **AP**, 9/6, 20/6; **Boston Globe**, 12/6, 24/6; **LT**, 12/6, 29/6;

Bangor Daily News, 13/6; **IHT**, 16/6, 23/6; **Defense News**, 19/6; **Baltimore Sun**, 23/6; **Minneapolis Star Tribune**, 30/6. See also **Newsbrief** no. 49, pp. 11 and 12)

- The **United States Navy** is reported to be engaged in a programme of upgrading the 2,000-odd W-76 warheads carried on its submarines, so as to provide them with the means of penetrating 'hardened' targets, such as missile silos. (**WP**, 24/4)

i. Proliferation-Related Developments

- On 13 June, two months after the announcement that the leaders of the **Democratic People's Republic of Korea** (DPRK) and Republic of Korea (RoK) had agreed, for the first time, to meet face-to-face, the South Korean President, Kim Dae-jung landed at Pyongyang airport, to be met by the leader of the DPRK, Kim Jong-il. The reception was described as "unexpectedly cordial". Radio Pyongyang called the meeting "a landmark turning point in the road towards national reconciliation, cooperation, peace and reunification".

The event came after extensive preparation. Following a proposal for a summit meeting, made in Berlin in March by President Kim Dae-jung, informal contacts had taken place in China between personnel of the two Korean states. Working-level officials from the two sides elaborated details for formal preparatory talks. Delegations headed by Vice-Ministers then met at Panmunjon in April and May to settle logistics such as the size of the respective delegations, protocol, press attendance, security, communication and transportation. As reported, a 15-point document reflected the resulting agreement but did not set the substance for the talks, except that, supposedly at the insistence of the DPRK, it mentioned the need to reconfirm "the three principles for the reunification of the fatherland" proclaimed in the South-North Joint Statement of 1972.

It seems that no detailed formal agenda for the meeting was adopted in advance, possibly because the two sides did not expect to reach agreement on inclusion of several major issues. One of these was said to be the DPRK's demand that the presence of US troops in the South should be discussed; the RoK's refusal to entertain this wish led to public anger on the part of the North. Disagreement over the affiliation and number of the media representatives to be admitted was said to have been overcome in long discussions. It was agreed that the 130-strong RoK delegation would be accompanied by a 50-member press corps, with the right to broadcast some events live via satellite. No foreign media personnel were let in.

The DPRK is understood to have insisted on a separation in the talks between what it called the "Historic Meeting" and the "Summit". Reputedly reflecting Northern ceremonial custom, the intention was that the DPRK leader, Kim Jong-il, would participate in the "Historic Meeting", while another senior official would host the "Summit". The two Heads of State would have two rounds of one-on-one talks, and one more with aides present.

In three-way consultations between Japan, the RoK and the US, differences over the emphasis among topics for

the inter-Korean talks were said to have surfaced The US was said to have urged that the DPRK's nuclear and missile programmes should be on the agenda. Supported by Japan, the US was understood also to have urged the inclusion of a call for a moratorium on weapons of mass destruction. The RoK reportedly stressed the delicacy of those topics and expressed concern that insistence on such discussions might lead to a confrontation or even derail the talks. It seems, however, that in the end Seoul did consent to bring the matter up, although the missile issue was understood not to be high on its priority list. One reason was said to be that the RoK is within range of the North's conventional weapons, and missiles add little to the military equation in the Peninsula. Another reason was seen in the wish of the summit partners to devote their main attention to economic cooperation and political *rapprochement*. RoK observers expected the DPRK to call for the withdrawal of US troops from the Korean Peninsula; South Korean and American officials said this issue should be kept off the agenda, since it was a matter that concerned only the two of them. It had also been expected that Pyongyang would repeat its demand for a separate peace agreement with the US as a condition for further talks. On that point, RoK officials said US policy had not changed and stressed that the primary parties to any peace agreement should be the DPRK and the RoK. Seoul was reported to have seen the summit event as an opportunity to demonstrate that the two Koreas could handle their own problems without intervention from major powers in the region.

Reportedly, both Korean states hoped that the June meeting would be the first of several. Apparently, the RoK expressed the wish that a second summit would be held in Seoul. Much was seen to depend, however, on the tone of the talks. There were reports in Seoul that for some time at least, the attitude of DPRK media to the forthcoming summit had been "vitriolic", depicting it as an opportunity for President Kim Dae-jung to ask forgiveness for past misdeeds. At the same time, however, cultural contacts were becoming more frequent and the DPRK halted its anti-RoK broadcasts along the demilitarised zone.

While international reactions to the prospect of an inter-Korean summit meeting were generally positive, there were warnings that this first meeting after 55 years of hostilities should not be expected to bring a breakthrough in relations, given the many controversies between the two countries, differences in economic and strategic interests, and in the ideological backgrounds of the participants. The most important result of the talks was expected to be an arrangement for the reunion of families separated after the war of the 1950s. US officials stressed that any direct North-South dialogue was basic to peace and stability on the Korean Peninsula. The UN Secretary-General welcomed the "positive dynamics" on the Peninsula.

Many commentators had seen the North's consent to a summit meeting as arising in part from its assumption that this would help it obtain more economic assistance from the South. The RoK had indicated its readiness to provide substantial aid and in May started shipping 200,000 tons of fertiliser. Commentators in Seoul warned that economic commitments at the summit could lead to

heavy financial responsibilities for the South and pointed out that investments in North Korea were expensive and carried high risks. It was rumoured in Seoul that Pyongyang had already asked the RoK for investments in its infrastructure, including railroads and power facilities, and it was suggested that the North's concurrence with the summit was obtained at least in part with promises of such investments. RoK's President Kim Dae-jung, for his part, said that with better relations between the two states, he would expect a boom in business, with small firms finding "boundless opportunities" for investment; RoK business groups were also quoted as expressing the view that the summit would "galvanize" inter-Korean economic cooperation.

As widely reported, the summit meeting, which started after a 24-hour postponement requested by Pyongyang was held in an unexpectedly cordial atmosphere, in which both leaders tried to convey an intention to improve relations and establish a personal and official dialogue. Aside from the symbolism generated by the meeting, and apart from the positive rapport the two heads of state seem to have established, substantive results from this first meeting were said to be few, however, beyond the adoption of a Joint Declaration which contains an agenda for reconciliation and what is seen as a largely theoretical plan for eventual reunification. The parties also adopted agreements — reportedly worked out in advance — on family reunions, political prisoners and an undertaking not to engage in offensive military action against each other. Supposedly to allay concerns in Tokyo and Washington that security matters might have been ignored, Kim Dae-jung has stressed that he had also raised the issues of missiles and of the military alliance between the RoK and the US.

According to South Korean officials, senior cabinet members from North and South are due to meet in July, to discuss measures agreed upon in the Joint Declaration. The RoK is setting up a standing body to coordinate follow-up steps to the agreements reached at the Pyongyang summit. Talks on economic cooperation are to begin in August at the ministerial level.

Press comments reflect doubt about the feasibility, or even the desirability, of an early reunification between the two states, although the South Korean President has spoken of a possible confederation between the two Koreas, with a federal Parliament. The first practical result from the summit was a four-day meeting in late June between the Red Cross organisations of the two states to set up reunions among divided families. Agreement is said to have been reached on dates, numbers and meeting points, and there is said to be hope that the pattern may be changed from a limited number of visits to a continuous series of meetings. South Korean sources see the eventual willingness of the North to allow the reunion of a significant portion of the two million families divided by the 1950 war as a test of Pyongyang's good intentions. In return, they expect that Seoul will have to give its neighbour massive assistance to buttress its failing economy. Only when confidence has been established in this way is it expected that talks about security issues and about a visit by Kim Jong-il to the South can start in earnest.

The two sides are said to have ceased the propaganda broadcasts they have long beamed at each other, and there is talk about intensified cultural exchanges and improvements in cross-border communications. There are suggestions that the RoK may invite the DPRK to participate in a natural gas pipeline that would connect both to Russia's natural gas reserves. There has also been talk of a rail connection.

American business circles have evinced considerable interest in the possibilities of trade with the DPRK, especially now that Washington — prompted, it is said, by the DPRK's promise, repeated formally in June, to continue its moratorium on the testing of long-range missiles rather than by the results of the Korean summit meeting — has eased the trade sanctions it has maintained against Pyongyang under the Trading with the Enemy Act, the Export Administration Regulations and the Defense Production Act. This will allow trade in a wide range of imports and exports of commercial and consumer goods between the DPRK and the US. Imports from the DPRK will be permitted, subject to an approval process. Direct personal and commercial financial transactions will be allowed, and restrictions on investments eased. Commercial US ships and foreign ships carrying US goods may call at DPRK ports. The easing of sanctions does not affect counter-terrorism or non-proliferation controls which prohibit exports of military and sensitive dual-use items and most types of US assistance. While expressing confidence that the easing of sanctions will have a beneficent influence on its relations with the US, Pyongyang has called on the latter to lift all sanctions. It has expressed concern that it still figures on the US list of states that allegedly sponsor terrorism, and Seoul is said to urge Washington to remove it from that list, mainly because this would enable international monetary and financial institutions to consider helping fund the reconstruction of the North's economy.

Following the summit meeting, DPRK officials again called on the US to withdraw its troops from the Peninsula, and accused it of escalating tensions there. Suggestions in the US that the current situation in the Korean Peninsula might permit the withdrawal of all or part of the US military forces in the South are being discouraged by members of the Congress as well as by government officials in Washington. US military specialists do not rule out that the mission and make-up of the forces may eventually be changed, but they reportedly feel that no reevaluation of the current situation is warranted until the North takes such measures as the withdrawal of artillery from near the demilitarised zone, and the abandonment of its missile-development effort. During a meeting in Seoul, following the summit meeting, the US Secretary of State confirmed that talk of reducing US troops was "not appropriate" and "premature"; she said that they would continue to be a "stabilising force" in the region. South Korean sources have confirmed that at the summit, President Kim Dae-jung defended the presence of US troops in the RoK and said that Kim Jong-il "showed understanding". Members of the South Korean government have repeatedly stressed the importance of maintaining a US military presence in their country.

Talks between the DPRK and the US, on improvements in their bilateral relations, the implementation of the 1994 Agreed Framework, and the visit of a high-level official from the North to Washington, were resumed in Rome, in late May. Reportedly, in the talks on the implementation of the 1994 Agreed Framework, the two sides discussed the refusal of the DPRK to report on the amount of plutonium it produced before the conclusion of the Agreed Framework. Another issue had been the US wish to get more definitive pledges from the DPRK to cease its missile tests, which have meanwhile been received, and reputedly confirmed by a recent CIA report that was said to indicate that tests of the Taepo-Dong intercontinental ballistic missile had been frozen since late 1999. The issue is expected to be discussed further in bilateral talks to be held on 10-12 July in Malaysia, where the US is also expected to raise the question of supplies to Iran of Scud missile technology. One point of contention in the Rome discussions on the visit to Washington of a senior DPRK dignitary was said to have been the continuing inclusion of the DPRK in the list of 'terrorism-sponsoring nations', of which a new version was submitted recently to the US Congress. There was also said to have been disagreement over an American demand that the DPRK should expel members of the Japanese 'Red Army', who have been in that country ever since they high-jacked a Japanese airliner, 30 years ago.

In Washington, meanwhile, Administration officials confirmed that the recent developments on the Korean Peninsula, and the Northern moratorium on missile-testing would not affect any plans for the deployment of an NMD system, even though that was supposed to be intended principally for the defence of the US against long-range missile attack by the DPRK.

In late May it was reported that the US had finished sealing the 8,000 irradiated nuclear fuel rods that had been taken from the Yongbyon 35-MW reactor. It appears that ten rods were lost during transportation; this did not represent a significant quantity of fissile material.

In late May, a team of American inspectors made a second visit to a suspected nuclear site at Kumchangri. As during the first visit, a year earlier, they were reported not to have found signs of the construction of a nuclear installation and to have said that conditions at the site — which was described as "unfinished", including an extensive, empty tunnel complex — looked unchanged. DPRK officials were quoted as saying that the site was intended for unspecified security purposes but that they were willing to consider other uses for it.

The US House of Representatives has passed, by a vote of 374 to 6, a bill stipulating that no American nuclear equipment or technology may be transferred to the DPRK without Congressional review and approval.

So far, talks between the DPRK and Japan on the possibility of establishing diplomatic relations do not appear to have been productive, although Tokyo has repeatedly expressed the intention to improve its ties with Pyongyang. Reportedly, in the talks so far the DPRK has reiterated earlier demands for compensation for human and material damage arising from Japan's colonial rule, amounting to \$5-10 billion; the return of and

compensation for national treasures; and improvement in the legal status of ethnic Koreans in Japan. Above all, the DPRK is said to demand a formal apology for past behaviour. Japan, for its part, is said to have raised the issues of missile development, spy-ship incidents, chemical and biological weapons, drug smuggling, and the alleged abduction by the DPRK of Japanese civilians. Talks in early April are said to have ended with only an understanding that they would resume. The parties met again in late May and were understood to have discussed, once again, the allegations of kidnapping of Japanese tourists, the DPRK's missile programme and compensation for acts committed by Japan during its occupation of Korea. In the run-up to that meeting, the DPRK press repeatedly threatened that the talks would be fruitless unless Japan promised compensation.

The DPRK is reported to have approached Kuwait for the establishment of diplomatic relations, reportedly in an attempt to create a bridgehead in the Middle East from which it might expand its diplomatic reach to other nations, including Israel. Australia announced in May that it had restored diplomatic relations with the DPRK, and there is a report that it may soon open an embassy in Pyongyang; the same is said of the Philippines. In April, the DPRK's Foreign Minister paid a visit to Germany. Belgium and the UK are said to have sent missions to the DPRK, to discuss the establishment of diplomatic relations; talks of a British delegation in the DPRK were said to have been fruitful.

Pyongyang has applied for admission into ARF, the Regional Forum of the Association of South East Asian Nations (ASEAN), and has expressed the wish to attend the July meeting of ARF, in Thailand; the move has been welcomed by states in the region. The application was endorsed at ARF's Senior Officials' Meeting on 18 May; a final evaluation will take place at Bangkok on 27 July.

Western observers have noted that on the birthday of the DPRK's former leader Kim Il-sung, the usual anti-American diatribes were not heard. They were said to find this all the more noteworthy since that was also the day on which US and South Korean military forces began their annual joint exercises. It also appears that, lately, the Northern military have been adopting a less militant stance, and that some of the forces in the border area and along the coast have been stood down from their previous high alert.

Following reports that Pyongyang had demanded an increase in the pay of the North Korean workers employed at the reactor-construction site from \$110 per month to \$600, which KEDO had refused, DPRK nationals were said to have been taken off the job, and construction work has been greatly hampered. The DPRK has again accused the US of delaying construction of the power reactors and causing it heavy economic losses; it has made a formal demand for compensation. According to one report Pyongyang asked to be compensated in electric power; another report asserted that it had asked for 600,000 tons of American food aid. On 29 June, the US President released \$20 million to prove oil to the DPRK under the Agreed Framework. This involved waiving the requirement of a certification that

the DPRK had terminated its nuclear-weapon programme.

Once again reports have surfaced that during the 1994 stand-off over the DPRK's nuclear plans, the US planned an air strike on the North's nuclear facilities. In a newspaper interview, the RoK's former President, Kim Young-sam, has said that he had prevailed on the US President to use peaceful means to settle the dispute.

(**ChI**, 31/3, 6/4, 10/4, 16/4, 19/4, 22/4, 28/4, 29/4, 1/5, 4/5, 9/5, 11/5, 15/5, 18/5, 7/6, 26/6, 28/6; **JAI**, 31/3, 2/4, 4/4, 6/4, 7/4, 10/4, 11/4, 13/4, 17/4, 19/4, 23/4, 1/5, 3/5, 10/5, 11/5, 15/5, 18/5, 22/5, 25/5, 30/5, 31/5, 7/6, 28/6; **KT**, 31/3, 2/4, 3/4, 9/4, 11/4, 13/4, 17/4, 3/5, 10/5, 11/5, 18/5, 25/5, 26/5, 29/5, 31/5, 7/6, 20/6, 21/6, 30/6; **AFP**, 2/4, 4/4, 7/4, 10-12/4, 14/4, 15/4, 18/4, 19/4, 21/4, 24/4, 26/4, 27/4, 1/5, 3/5, 7-9/5, 11/5, 12/5, 15/5, 18/5, 23/5, 24/5, 26/5, 28/5, 31/5-2/6, 7/6, 10/6, 13/6; **People's Daily**, 2/4; **AP**, 3/4, 5-7/4, 11/4, 18/4, 24/4, 25/4, 3/5, 4/5, 8/5, 11/5, 18/5, 22-24/5, 29/5, 31/5, 8/6, 13/6, 17/6, 19/6, 21/6, 22/6, 25-29/6; **KH**, 3-5/4, 7/4, 8/4, 10/4, 11/4, 17/4, 19-21/4, 24-26/4, 2-5/5, 7/5, 10-12/5, 16/5, 18/5, 19/5, 22/5, 23/5, 26/5, 29/5, 30/5, 1/6, 2/6, 7/6, 19/6, 20/6, 22/6, 27/6, 29/6; **WT**, 5/4, 14/4, 25/4, 9/5, 12/5, 20/6, 28/6; **Daily Yomiuri**, 6/4, 3/5; **FT**, 6/4; **Nikkei Shimbun**, 6/4; **Sankei Shimbun**, 6/4, 2/5; **China Daily**, 8/4, 25/4, 1/6; **NYT**, 8/4, 10-12/4, 16/4, 25/5, 31/5-2/6, 12-14/6, 24/6, 25/6, 28/6, 1/7; **US Department of State**, 10/4, 11/4, 2/5, 19-22/6, 28/6; **Asia Times**, 11/4; **CSM**, 11/4, 3/5; **WP**, 11/4, 18/5, 1/6, 13/6, 21/6; **YOS**, 19/4; **Kyodo News**, 27/4; **ASS**, 2/5; **R**, 8/5, 9/5, 11/5, 16/5, 18/5, 7/6, 8/6, 13/6, 20/6, 28-30/6; **NW**, 11/5; **IHT**, 15/5, 7/6, 14/6, 16-20/6, 23/6; **Press Release**, US House of Representatives International Relations Committee, 16/5; **E**, 17/6; **LAT**, 19/5, 31/5, 22/6, 29/6; **Far Eastern Economic Review**, 25/5; **Japan Economic Newswire**, 25/5; **Jae-suk Yoo** [Seoul], 26/5, 29/6; **USA Today**, 8/6; **CNN.com**, 13/6; **DJ**, 29/6; **Kyodo News**, 30/6)

- On the occasion of the opening of the 2000 Review Conference of the NPT, the Minister of External Affairs of India, Jaswant Singh, confirmed his country's claim that it is a "nuclear weapon state". On the second anniversary of the second series of India's nuclear tests at Pokhran, Prime Minister Atal Behari Vajpayee stressed that his country was determined to retain a minimum credible nuclear deterrent, and that its nuclear tests were "purely defensive in nature".

At the NPT Review Conference in April/May, there were rumours that India, which, it had been thought, was not fully satisfied with the results of its 1998 tests, was hoping to stage one more test of a 'hydrothermal' nuclear device before signing the CTBT. It has since also been reported that the former head of India's Department of Atomic Energy, P.K. Iyengar, had told a leading newspaper that the thermonuclear-bomb test of 1998 had in fact not been a success, as less than ten per cent of its fuel had ignited. Iyengar said that to get greater burn, for better efficiency and smaller size, the device would have to be redesigned, and further tests would be needed. In late 1998, Indian official sources had denied American reports to this effect (see **Newsbrief** no. 44, p. 10).

Observers of the South Asian strategic situation generally believe that if India should test again, **Pakistan** would quickly respond with tests of its own. In Islamabad, however, the Foreign Ministry has described "utterly baseless" reports that any further tests were planned. On the second anniversary of its 1998 tests, the Pakistani government said that the country was now more secure. The country's Foreign Minister said a national consensus had been created on signing the CTBT and Pakistan would pursue a Fissile Material Cut-off Treaty (FMCT). Former Prime Minister Nawaz Sharif, in jail on a charge of murder, said that the tests had guaranteed the country's freedom forever. In June, Pakistan said it would resume talks with the US on nuclear and security issues, and that it would consider reciprocal nuclear arms restraints with India. The latter promptly rejected the offer as propaganda.

While reports that the nuclear establishments in both India and Pakistan are urging their governments to permit further tests to be carried out are denied in the respective capitals, they are seen in Washington as credible. One argument is said to be India's wish to base its defences on the nuclear triad of land, sea and air-delivered weapons, for which some new weapon designs still have to be validated.

According to recent unconfirmed American media reports US officials now claim that Pakistan has both more warheads than does India, and a greater capability to deliver them. In the latter context reference is made to Pakistan's air force, which is said to include US F-16 aircraft and French Mirages, as against India's MiG and Sukhoi fighter-bombers. Pakistan is now supposed to have 30 nuclear-capable missiles, including the M-11 (known as Tarmuk) and the Ghauri, which is based on the DPRK's Nodong. India's Agni is thought to be some time away from deployment as a nuclear-delivery vehicle.

Satellite images of India and Pakistan, obtained by the Federation of American Scientists, are said to show considerable extensions of their nuclear and missile establishments and to indicate that both are engaged in adapting their nuclear warheads for missile-delivery.

There has been a report that for several months Pakistan has been reprocessing plutonium produced in its reactor at Khushab at a pilot-scale reprocessing plant at New Labs near Rawalpindi. The Khushab reactor is said to be capable of producing 15 kg of plutonium at 75 per cent capacity; it is understood to be operated as a dedicated plutonium-producing facility. The reprocessing plant is said to be capable of handling all the discharged fuel, extracting between 8 and 10 kg of weapons-grade plutonium a year.

(Statement by Jaswant Singh, Embassy of India, Washington D.C. Homepage, 9/5; **Hindu** [New Delhi], 12/5; **Channel News Asia**, 18/5; **NW**, 1/6, 8/6, 15/6; **NBC News On-Line**, 7/6; **NF**, 12/6; **IHT**, 14/6, 17/6; direct information)

- On 14 April, the United Nations Security Council unanimously endorsed the organisation plan of the UN Monitoring, Verification and Inspection Commission (UNMOVIC) which the Council established in its

resolution 1284 of 17 December 1999 for the verification of compliance by **Iraq** with its obligation of the resolutions adopted in 1991. (See **Newsbrief** no. 48, pp. 21, 22, 37-39). UNMOVIC's Executive Chairman, Dr. Hans Blix, the former Director General of the IAEA, was said to have begun recruiting the core staff of his organisation, which reportedly will number about 40 members, including a number of qualified inspectors who served with UNMOVIC's predecessor, the United Nations Special Commission on Iraq (UNSCOM). In contrast to UNSCOM, whose inspectors were officials on loan from governments, UNMOVIC's inspectors will be UN employees. This is expected to minimise the risk that the new organisation can be accused of working for or on behalf of any member states. Nevertheless, Russia appears to hold the view that no inspector should be appointed whom Iraq might object to; there has been a press report that Russia opposes the appointment to UNMOVIC inspectors of two Russian nationals who used to work for UNSCOM.

Under the organization plan, an Ongoing Monitoring, Verification and Inspection Centre should be established in Baghdad, with regional offices throughout Iraq. UNMOVIC would have equipment similar to that of UNSCOM and will also have the right to designate inspection sites, conduct interviews and take samples.

Three days after the Security Council approved the organisation plan, Iraq's deputy Prime Minister Tariq Aziz said that Baghdad did not accept it and that no Iraqi leaders had ever indicated that the inspections would be allowed to resume.

In May, UNMOVIC's 16 Commissioners had their first meeting, in New York, and reviewed the report of the Executive Chairman on his preparations. Just before the meeting, Iraq's Vice-President once again condemned UNMOVIC, and said that sanctions must be lifted before any inspections could be made. When in June Blix submitted a report to the Security Council on the start-up of UNMOVIC, Iraq said once again that it would have no dealings with that body. Blix is said to be "optimistic", however, that Iraq will eventually consent to admit UN inspections but he is quoted in press reports as saying that there are issues beyond his control, such as the continuing air raids on Iraq, that may continue to stand in the way.

The British and American air raids on military installations in Iraq continued also during the second quarter of 2000, reportedly in response to anti-aircraft fire. According to Iraqi sources, in early April an air raid killed 14 Iraqi citizens, which would bring the total number of fatalities resulting from these raids since December 1998 to 162. In late June it was reported in Washington that 18 months after US and UK war planes had damaged its missile factories, Iraq had restarted its missile programme and has since carried out eight flight tests of its short-range Al Samoud liquid-fuelled ballistic missile [permitted under the pertinent Security Council resolutions — ed.]. The tests are seen as evidence that Iraq is again developing its ballistic missile technology.

According to the British newspaper *Sunday Telegraph*, a state owned Byelorussian arms producing company has undertaken to upgrade Iraq's anti-aircraft missile

batteries by extending their range, and to overhaul its anti-aircraft ordnance. Belarus is also said to plan for specialised training of Iraqi military in the use of the latest Russian electronic warfare systems. The deal is said to have been negotiated with the help of Russian military officials.

Baghdad has turned down a Canadian offer of \$1 million to help upgrade schools, hospitals and water treatment plants. Canada will now channel the assistance through UNICEF.

Iraq has refused to entertain inquiries of former Russian UN Ambassador Yuli M. Vorontsov, into the whereabouts of Kuwaiti prisoners missing after Iraq's invasion of 1990. Mr. Vorontsov was looking into the matter on behalf of the UN Secretary-General.

A Russian tanker chartered by Royal Dutch Shell was stopped by US naval forces and found to carry Iraqi oil, in violation of the embargo. According to analyses, 20 per cent of the ship's cargo consisted of Iraqi-origin product. The company has been fined \$2 million.

(IHT, 7/4; E, 8/4; NYT, 14/4, 16/4, 21/4, 26/4, 27/4, 11/5, 25/5, 1/6, 1/7; **Sunday Telegraph**, 14/4; **Trust & Verify**, May; **I**, 23/6)

- A press report that the success of the recent inter-Korean summit and the DPRK's promise to suspend its missile development had prompted the **Republic of Korea** (RoK) to cease production of missiles with a range longer than 110 miles (180 kms) has been denied by the country's Foreign Ministry. (WP, 25/6; **ChI**, 26/6)

j. **Nuclear Material Trafficking and Physical Security**

- From 23 May to 16 June, the IAEA conducted an aerial reconnaissance to track down discarded radiation sources in the **Republic of Georgia**. In a effort to find radioactive sources and contaminated areas that might pose a health hazard, an Agency team using a French helicopter equipped with a gamma radiation detection system surveyed a 1,200-km square area in the hope of providing reasonable assurance that there is no serious radiation risk from discarded sources there. One cesium-137 source was reported to have been located in the city of Poti and subsequently recovered. Three areas were found to have slightly elevated radiation levels; these will be investigated by Georgian authorities. The Agency has said that since Georgia's independence upon the break-up of the Soviet Union, 300 discarded radioactive sources have been found there. (IAEA Press Release PR 2000/12, 19/5, PR 2000/16, 23/6)
- A British newspaper claims to have proof of the presence in **Pakistan** of substantial quantities of plutonium and uranium of Russian origin, held by "Afghani Muslim extremists and Pakistani tribal warlords with close links to black market arms dealers in Britain". (**Sunday Mirror**, 1/6)
- According to the IAEA, the accident that occurred in **Thailand** on 20 February, when workers at a scrap yard were exposed to radiation from a stolen cobalt source which they forced open, would have been classified as

Level 4 on the IAEA's seven-level International Nuclear Event Scale (INES), if Thailand had filed an INES report. Level 4 represents to an "accident without significant off-site risk". Three of the workers have died. Reportedly, Thailand has not submitted an INES report and is not expected to do so. (NW, 6/4. See also **Newsbrief** No. 49, page 20)

- **United Kingdom** nuclear experts and enforcement officers have been trying to find the origin of an unirradiated uranium metal fuel bar that was found in March in a scrap metal yard in Staffordshire; it was said to have been there for about a year. In Suffolk, the manager of a garbage dump was found in possession of a "heavy block of material" which turned out to be depleted uranium. (NW, 27/4).
- At the **United States** Department of State, security measures are being tightened, following the disappearance of a laptop computer from what is described in the press as an "intelligence office with highly sensitive files about weapons proliferation". The computer is said to have contained "code-level" files, involving sources and methods relating to weapons proliferation, including data gathered from satellites and human and electronic sources. The Secretary of State has removed several officials of the Department's Bureau of Intelligence and Research, as being mainly responsible.

At Los Alamos National Laboratory (LANL), two computer hard drives said to contain secret bomb data belonging to DoD disappeared from a case stored in a vault. Reportedly, they held information how to disarm and dismantle a wide range of nuclear devices. The absence of the hard drives was discovered when in early May, as forest fires threatened, LANL was closed and one of the cases was taken out of the vault to be on hand in the event of an emergency. Intensive searches did not reveal their whereabouts, but the fact that associated classified information was not disturbed led security staff to the belief that the hard drives were mislaid, rather than stolen.

The event provided yet another opportunity to the Congress to criticise DoE and the whole Clinton Administration, this time for an allegedly lax security policy. Reports that the Laboratory had begun to investigate the matter until 24 May, and DoE only learned of the event on 1 June gave these critics additional ammunition. Republican Senators have called for Energy Secretary Richardson to resign. Their calls became even more strident when, on 16 June, the hard drives inexplicably turned up in an area that had been searched before. Secretary Richardson has told a Senate hearing that no evidence of espionage has been found, but his critics still refuse to rule out that espionage is at the bottom of the affair. Richardson has put the blame on a deep-rooted "lab culture" among employees of the University of California, the operator of Los Alamos, who appear to have a relaxed attitude towards the handling of classified data and show an innate resistance to the extra security measures he has introduced. It was since revealed that already in late May, a report by DoE's inspector general had pointed out that the security evaluation system at Los Alamos presented the situation there in a more favourable light than reality warranted. A

new report by the Permanent Select Committee on Intelligence of the US House of Representatives has faulted the Energy Secretary and his Department for having failed to win the support and understanding of scientists at the three national weapons laboratories for the need to impose and observe strict security rules. The report criticises as ineffectual the effort of the Department to explain this need, and says that while some of the resistance on the part of employees may have been unreasonable, the Department's response had been dictatorial and pre-emptory.

On 15 June the Senate unanimously confirmed the current deputy director of the CIA, Air Force General John A. Gordon, as Under Secretary for Nuclear Security. He will head the National Nuclear Security Administration (NNSA), which, following allegations that foreign agents had purloined nuclear data from weapons laboratories, was created by a Congressional decision as an autonomous agency within DoE (see *Newsbrief* no. 48, p. 17). Gen. Gordon was sworn in on 28 June and was immediately requested by Secretary Richardson to conduct a top-to-bottom review of security at the three weapons laboratories.

US Attorney General Janet Reno has shelved a proposal for the creation of a new counterintelligence executive. The proposal arose from a year-long interagency review reputedly prompted by allegations that the US is facing wider espionage threats than ever before and that existing intelligence bodies have proven unable to prevent sensitive American technology being obtained by foreign powers. The Administration is said to hold the view that the proposal would create yet another layer of bureaucracy and that existing bodies should, where necessary, reorganise to cope with any new challenges.

DoE has dropped its plan to make foreign nationals at its laboratories wear badges mentioning their countries of origin. The idea had been raised after a Taiwan-born employee of the Los Alamos National Laboratory, Dr. Wen Ho Lee, was accused of mishandling nuclear secrets.

It has become known that after Dr. Wen Ho Lee became the subject of the security investigation that led to his eventual incarceration, the files he was accused of having downloaded into his private computer were given a higher security classification than they had when he duplicated them. Dr. Lee is still held without bail, under exceptionally hard conditions. His trial is not expected until November. The Association for Asian-American Studies has called on scientists of Asian extraction not to take jobs with US National Laboratories. Apparently, the number of Asian-Americans applying for jobs with National Laboratories had already dropped significantly, and a boycott of this kind, at a time when fresh graduates leave universities, could have real effect. Of all US holders of doctorates in science and technology, one quarter are said to be Asian-Americans. A Justice Department spokesman has denied that the treatment of Dr. Wen Ho Lee is due to racial discrimination.

In early May, the US Department of Justice replaced the locally based assistant US attorney handling the case by a prosecutor from Washington. One month later, the

Federal judge who was to have presided over Dr. Lee's trial, excused himself from the case. Hearings on a defence motion regarding evidence to be produced in the case, scheduled for 7 June, were postponed indefinitely. The trial date of 6 November was also cancelled. Lee's defence lawyers are said to prepare for new hearings, in which they would cite the recent disappearance and return of two computer drives containing classified information as evidence of a habitual disregard of security rules at Los Alamos, and as an argument that Dr. Lee has been unfairly singled out.

(*NYT*, 3/4, 15/4, 23/4, 25/4, 4/5, 11/5, 2/6, 6/6, 13/6, 14/6, 26/6, 28/8; *NPR News*, 24/4; *Office of the Presidential Secretary*, the White House, 8/5; *WP*, 13/6; *AP*, 14/6, 15/6; *IHT*, 14/6, 19/6, 20/6; *CSM*, 16/6; *R*, 16/6; *WT*, 19/6; *CNN*, 21/6; *DoE*, 28/6. See also *Newsbrief* no. 49, pp. 9 and 10)

- **United States** print media make much of allegations by a former DoE advisor, published in *The Bulletin of the Atomic Scientists*, that there are serious safety problems with the way weapons-grade material is transported, stored and processed and nuclear warheads are dismantled, and that moves to correct such situations are far behind schedule, mainly because of inadequate funding. In response, DoE officials have said that the claims are greatly exaggerated and that the person in question had a grievance because he had been dismissed on suspicion of growing marijuana. (*NYT*, 12/4, 30/4)
- In early April, border guards in **Uzbekistan** seized an Iranian lorry allegedly bound for Pakistan and carrying ten lead containers which officials said contained "radioactive material". Customs officers are said to have turned the cargo over to Pakistan for testing and it is now said to have been identified as being mainly strontium 90. The officials who stopped the consignment were said to have been trained and equipped by US personnel; they supposedly detected a high radiation level around the cargo when it passed the customs post. There have been suggestions that the material was to be made into radiation weapons and may have been destined for use by a terrorist organisation based in Afghanistan or Pakistan, and allegedly headed by Osama Bin Laden. (*NYT*, 5/4, 8/4; *Sunday Telegraph* [London], 23/4)

k. Environmental Issues

- The **Russian** former naval officer Aleksandr Nikitin, who had been charged with espionage for having given the Norwegian environmental organisation 'Bellona' information about nuclear waste-dumping practices of the Russian navy, was acquitted by the country's Supreme Court. The case was heard on appeal by the Prosecutor General against a decision by a court in St. Petersburg, which had found in Nikitin's favour. (*Bellona*, 17/4. See also *Newsbrief* no. 48, p. 24 and no. 49, p. 21)
- The Ministry of Atomic Energy (Minatom) of the **Russian Federation** continues to work on plans for the storage on Russian territory of up to 20,000 tons of irradiated nuclear fuel from foreign states. A law of 1992 forbids the import of radioactive waste, except from states operating Russian-built reactors. Minatom has been trying, so far unsuccessfully, to get the law changed,

and the matter is reported currently to be under discussion in regional legislative bodies, with a view to having it reintroduced through the Upper Chamber of the Federal Parliament. Prospects for success remain unclear (**Inter Press Service**, 7/4; **AP**, 11/4; **Bellona**, 4/5 See also **Newsbrief** no. 47, p. 5 and no. 49, p. 20)

I. Miscellaneous

- A forest fire near the Los Alamos National Laboratory, in New Mexico, **United States**, which went out of control shortly after the US Park Service had set it in an attempt to reduce shrub growth, has destroyed many dwellings in the vicinity of the Laboratory. Reportedly, the fire did not affect nuclear material or sensitive buildings, although parts of the establishment suffered damage, and the laboratory was closed for several weeks. (**NYT**, 11-13/5, 21/5)

II. PPNN Activities

- Ben Sanders attended the 2000 NPT Review Conference from 24 April to 19 May as a member of the delegation of the Netherlands. John Simpson attended in the same period as an adviser to the UK delegation. Other members of the PPNN Core Group attending the Conference in their official capacities or as advisers to their national delegations were: Raja Adnan (Malaysia), Peter Goosen (South Africa), Camille Grand (France), Harald Miller (Germany), Enrique Roman-Morey (OPANAL), and Hu Xiaodi (China).

Abigail King and Emily Taylor represented PPNN and distributed PPNN material, including copies of the latest **Newsbriefs**, **Issue Reviews** and the up-dated PPNN **Briefing Book**. In the course of the Conference PPNN held several small lunches for delegates attending the meeting to review its progress.

- In April PPNN published two **Issue Reviews**: Number 17 on *Issues and Options for the 2000 NPT Review Conference*; and Number 18 on *The Strengthened Review Process of the NPT: Lessons of the Past and Options for the Future*, both by Emily Bailey and John Simpson
- From 16 to 18 June PPNN held a workshop in Annecy, France, for 25 senior government officials, from 19 states, and representatives of international organizations and NGOs, who had attended the 2000 NPT Review Conference. This was the latest in a series of annual meetings co-sponsored by the Center for Nonproliferation Studies (CNS), Monterey Institute of International Studies, Monterey, USA, on the results of NPT Review Conferences and PrepCom Sessions.

The workshop opened with brief statements by Ben Sanders, Executive Chairman of PPNN and William Potter, Director, CNS, and consisted of four main sections and a short concluding session. Discussions in the main sections were guided by a list of issues/questions that had been distributed to the participants in advance. Section 1, chaired by Ben Sanders, was on *The NPT Conference in Retrospect*; Section 2, chaired by The Hon. Professor Lawrence Scheinman (CNS) was on *The NPT Review Process — Where are improvements needed?*; Section 3, chaired by William Potter was on *The Implications of the 2000 Review Conference and its*

PrepCom upon the Non-Proliferation Regime; and Section 4, chaired by John Simpson (PPNN), consisted of a General Discussion. In the final session, William Potter, Tariq Rauf (CNS), Ben Sanders, Lawrence Scheinman, and John Simpson led a concluding Panel discussion.

- PPNN plans to hold its next (28th) semi-annual Core Group meeting in Chilworth, Southampton, United Kingdom from 12 to 15 October. The main purpose of this meeting will be a detailed examination of understandings reached at the 2000 NPT Review Conference and discuss how those might be implemented.

The current phase of PPNN's activities will terminate in December 2000. Discussions are currently taking place on how its work might be continued in future years, given the changed circumstances created by, *inter alia*, the successful outcome of the 2000 NPT Review Conference; and the alternative roles PPNN could play in continuing to support and strengthen the nuclear non-proliferation regime.

III. Recent Publications

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Joseph Cirincione, Ed.; foreword by Jessica Mathews; contributions by Jayantha Dhanapala; Bill Richardson; Samuel R. Berger; Ken Luongo, Matthew Bunn, Rose Gottemoeller, Lev Ryabev; Alexander A. Pikayev; Sha Zukang; Neil Joeck; David Albright; Daniel Morrow, Michael Carriere; Richard Butler; Richard Speier, Robert Gallucci, Robbie Sabel, Viktor Mizin; Benjamin Frankel, Ariel Levite, Khidhir Hamza, Bruce Jentleson; Jonathan B. Tucker, Brad Roberts, Elisa Harris; Camille Grand; Michael Krepon, Thomas Graham Jr., Bruce Blair, Robert Bell, Alexei Arbatov; Darach MacFhionnbhairr, Patricia Lewis, Marina Laker, Luiz F. Machado, *Repairing the Regime — Preventing the Spread of Weapons of Mass Destruction*, Routledge, 326 pp.

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IV. Documentation

a. Law of The Russian Federation on Ratification Between the Russian Federation and the United States of America on Further Reduction and Limitation of Strategic Offensive Arms

Article 1

To ratify the Treaty Between the Russian Federation and the United States of America on Further Reduction and Limitation of Strategic Offensive Arms, done at Moscow on January 3, 1993, hereinafter referred to as the START II Treaty, including its integral parts:

Memorandum of Understanding on Warhead Attribution and Heavy Bombers Data Relating to the Treaty Between the Russian Federation and the United States of America on Further Reduction and Limitation of Strategic Offensive Arms, done at Moscow on January 3, 1993;

Protocol on Procedures Governing Elimination of Heavy ICBMs and on Procedures Governing Conversion of Silo Launchers of Heavy ICBMs Relating to the Treaty Between the Russian Federation and the United States of America on Further Reduction and Limitation of Strategic Offensive Arms, done at Moscow on January 3, 1993;

Protocol on Exhibition and Inspections of Heavy Bombers Relating to the Treaty Between the Russian Federation and the United States of America on Further Reduction and Limitation of Strategic Offensive Arms, done at Moscow on January 3, 1993;

Protocol Relating to the Treaty Between the Russian Federation and the United States of America on Further Reduction and Limitation of Strategic Offensive Arms, of January 3, 1993, done at New York on September 26, 1997.

Article 2

Extraordinary events giving the Russian Federation the right to withdraw from the Treaty in exercising its national sovereignty and in compliance with Article VI of the START II Treaty shall be:

1) breach of the START II Treaty on the part of the United States of America, which jeopardizes the national security of the Russian Federation;

2) the United States of America's withdrawal from the Treaty Between the Union of Soviet Socialist Republics and the United States of America on the Limitation of Anti-Ballistic Missile Systems, done at Moscow on May 26, 1972, hereinafter referred to as the ABM Treaty, or the infringement of the aforesaid Treaty and respective agreements;

3) build-up of strategic offensive arms of the states that are not parties to the START II Treaty in a way that poses a threat to national security of the Russian Federation;

4) taking and implementation by the United States of America, or any other state whatsoever, or alliances, and North Atlantic Treaty Organization among them, of decisions in the field of military development, which threaten the national security of the Russian Federation, including deployment of nuclear weapons on the territory of the states having joined NATO after the date of the START II Treaty signature;

5) deployment by the United States of America or any other state whatsoever of armaments, preventing the normal functioning of the Russian system of early warning of missile attack;

6) extraordinary events of economic or technical origin, which make it impossible for the Russian Federation to fulfil its obligations under the START II Treaty or jeopardize the environmental security of the Russian Federation.

Article 3

1. In case of extraordinary events, provided for in Article I of this Federal Law, or in any other extraordinary situation whatsoever, jeopardizing the supreme interests of the Russian Federation, the President of the Russian Federation shall:

- a) take political, diplomatic and other measures in order to eliminate the aforesaid threats or neutralize their consequences;
- b) provide for immediate consultations with the Chambers of the Federal Assembly of the Russian Federation and, taking into account the results of these consultations, take decisions relating to the START II Treaty, including introduction of motions under the Federal Law "On International Treaties of the Russian Federation".

2. The Chambers of the Federal Assembly of the Russian Federation, if they consider events to be extraordinary and subject to immediate action under Article VI of the START II Treaty, shall address the President of the Russian Federation with a proposal to begin consultations, advise him or undertake any other steps, provided for in the Federal Law "On International Treaties of the Russian Federation".

Article 4

The President of the Russian Federation shall hold consultations with the Chambers of the Federal Assembly of the Russian Federation and, taking into account the results of these consultations, take decisions relating to the START II Treaty, including the introduction of motions under Section V of the Federal Law "On International Treaties of the Russian Federation", if no later than December 31, 2003 the Parties conclude a new Treaty Between the Russian Federation and the United States of America on Further Reduction and Limitation of Strategic Offensive Arms, which shall:

- 1) envisage the preservation and further enhancement of strategic stability at the lowest possible levels of strategic offensive arms of the Russian Federation and the United States of America;
- 2) enable the Russian Federation to apply multifarious approaches to the development of its strategic nuclear forces, including their organization and structure, necessary to maintain national security of the Russian Federation with regard for existing economic situation;
- 3) exclude the possibility of rapid increase in the number of nuclear warheads attributed to all types of launchers;
- 4) provide for equal rights and opportunities for the Parties in the process of elimination and disposal of nuclear warheads;
- 5) secure the optimal economic use of the existing infrastructure of the strategic nuclear forces of the Russian Federation, essential cost reduction for the implementation of the programs of elimination and disposal of strategic offensive arms, and broadening of the Russian capabilities to use the reduced components of the aforesaid arms and their infrastructure in the interests of national economic development.
- 6) provide for accounting of all types and systems of strategic arms.

Article 5

The obligations under the START II Treaty are fulfilled on the basis of:

- 1) preservation of the might of Russian strategic nuclear forces, at a level which provides for the maintenance of national security of the Russian Federation;
- 2) appropriate financing of the strategic nuclear forces of the Russian Federation and of the works on safe elimination and disposal of strategic offensive arms;
- 3) the United States of America's compliance with the provisions of the Treaty Between the Union of Soviet Socialist Republics and the United States of America on the Reduction and Limitation of Strategic Offensive Arms, done at Moscow on July 31, 1991, hereinafter referred to as the START I Treaty;
- 4) reduction of the strategic offensive arms of the Russian Federation, provided for in the START II Treaty, taking into account their period of operation;
- 5) maintenance of combat readiness of the Russian strategic nuclear forces, irrespective of any development of strategic

situation, preservation of laboratory and experimental base and production capabilities;

- 6) providing for the safe use, storage, elimination and disposal of strategic offensive arms;

7) equal rights and opportunities for the Parties of the START II Treaty in carrying out inspections and other verification procedures; preservation and improvement of the Russian Federation's national technical means of verification in order to observe the United States of America's fulfilment of the START I and the START II Treaties, and the ABM Treaty.

Article 6

The Russian Federation fulfils its obligations, provided for in the START II Treaty, in compliance with this Federal Law and other legal documents of the Russian Federation regulating measures and procedures relating to the implementation of the START II Treaty.

Financing of the strategic nuclear forces of the Russian Federation as well as of the production, use, elimination and disposal of nuclear weapons is carried out in compliance with the federal legislation.

The President of the Russian Federation shall approve the Federal Program of Development of the Strategic Nuclear Forces of the Russian Federation and present it to the Chambers of the Federal Assembly no later than two months after entry into force of this Federal Law.

No later than three months after entry into force of this Federal Law, the Government of the Russian Federation shall work out and present to the President of the Russian Federation the Special Federal Program for Elimination and Disposal of Weapons and Materiel of Strategic Nuclear Forces, subject to his approval and providing for use of reduced components and infrastructure in the interests of national economic development.

Article 7

In the process of implementing the START II Treaty:

I. The President of the Russian Federation shall:

- a) determine the principal directions of the state policy in the field of development of the Russian strategic nuclear forces and nuclear disarmament; define procedures and deadlines for the activities in fulfilling the START II Treaty which imply preservation of the Russian strategic nuclear forces' potential and maintenance of their combat readiness at a level, providing for guaranteed deterrence from aggression against the Russian Federation or its allies;
- b) take decisions on the terms and procedures of decommissioning and deactivation of strategic offensive arms, provided for in the START II Treaty, and on commissioning of the new models of strategic offensive arms;
- c) formulate the Russian policy for further international negotiations in the field of strategic offensive arms and anti-missile defense, hold consultations and parley with the heads of other states desiring to enhance strategic stability and maintain the national security of the Russian Federation.

2. The Government of the Russian Federation shall:

- a) provide for stable and primary financing of the Russian strategic nuclear forces, of the works on safe elimination and disposal of strategic offensive arms, and of activities in carrying out the obligations under the START I and START II Treaties, in compliance with the federal legislation and special federal programs;
- b) ensure the preservation and development of the laboratory and experimental base and production capabilities, required to maintain the nuclear might and combat readiness of the strategic nuclear forces of the Russian Federation;
- c) present to the Chambers of the Federal Assembly of the Russian Federation a regular report on the state of the Russian strategic nuclear forces and on the course of implementation of the START I and START II Treaties, and the ABM Treaty, as provided for in the Article 8 of this Federal Law;
- d) present to the Chambers of the Federal Assembly of the Russian Federation the data specified in the Memorandum of Understanding on Warhead Attribution and Heavy Bombers Data Relating to the START II Treaty;

e) secure the effective use of national technical means of verification under the START I and START II Treaties, and the ABM Treaty, the technical improvement of the aforesaid means and fulfilment of verification procedures, provided for in the above-mentioned treaties.

f) take measures to ensure the safe use, storage, elimination and disposal of strategic offensive arms, nuclear warheads and rocket fuel, and to exclude unauthorized access to nuclear warheads;

g) take measures to use optimal economic methods and means of elimination and disposal of strategic offensive arms;

h) implement, on the instructions of the President of the Russian Federation, foreign policy decisions in the field of reduction and limitation of strategic offensive arms and nonproliferation of nuclear weapons;

i) invite the representatives of the Chambers of the Federal Assembly of the Russian Federation to participate, if they so wish, in discussing the course of negotiations in the field of strategic offensive arms and anti-missile defense.

3. The Chambers of the Federal Assembly of the Russian Federation shall:

a) in considering the annual Federal Bill "On the Federal Budget", participate in taking decisions on the amount of allocations for the purposes of scientific research and experiments in the field of strategic offensive arms, of their purchase, of the development, repairs and modernization of major bases for the Russian strategic nuclear forces and their managing, as well as of the works on safe elimination and disposal of strategic offensive arms and activities to implement the START I and the START II Treaties;

b) take part in elaborating federal laws and special federal programs, pass federal laws, required to maintain strategic nuclear forces of the Russian Federation at the level providing for national security of the Russian Federation, and carry out activities in the field of reduction of nuclear arms;

c) consider the annual report of the Government of the Russian Federation on the state of strategic nuclear forces of the Russian Federation and the course of implementation of the START I and the START II Treaties, and the ABM Treaty, and take decisions as appropriate;

d) charge, as is deemed necessary, the Board of Auditors of the Russian Federation with the mission to audit the spending of the financial means allocated for the implementation of the START I and the START II Treaties;

e) if necessary, take measures provided for in Section V of the Federal Law "On International Treaties of the Russian Federation".

Article 8

After entry into force of the START II Treaty, and no later than October 1, each year, the Government of the Russian Federation shall send to the Chambers of the Federal Assembly of the Russian Federation a report on the state of strategic nuclear forces of the Russian Federation and on the course of implementation of the START I and the START II Treaties, and the ABM Treaty, which shall include the following information:

1) the changes in the organization and structure of strategic nuclear forces of the Russian Federation, financial provisions and the results of the completed works on maintaining their potential and combat readiness;

2) the fulfilment on the part of the Russian Federation and the United States of America of the obligations set out in the START I and START II Treaties, and the ABM Treaty;

3) the course of elimination and disposal of decommissioned strategic offensive arms of the Russian Federation, the state of

financing of activities under the START I and the START II Treaties, including the use of foreign aid;

4) environmental conditions in the locations of storage, elimination and disposal of strategic offensive arms, above all nuclear warheads and rocket fuel;

5) the course of negotiations on elaborating new agreements in the field of reduction and limitation of strategic offensive arms and anti-missile defense;

6) the state of development of projects in the field of strategic offensive arms and anti-missile defense, the situation regarding the nonproliferation of nuclear weapons and missile technology in the United States of America and any other state or alliance whatsoever.

Article 9

The exchange of instruments of ratification of the START II Treaty by the Russian Federation shall be done upon completion by the United States of America of the procedure of ratification of the START II Treaty, including the Protocol Relating to the START II Treaty of September 26, 1997, done at New York, Memorandum of Understanding Relating to the ABM Treaty of September 26, 1997, done at New York, First Agreed Statement Relating to the ABM Treaty of September 26, 1997, done at New York, Second Agreed Statement Relating to the ABM Treaty of September 26, 1997, done at New York, Agreement on Confidence-Building Measures Related to Systems to Counter Ballistic Missiles Other Than Strategic Ballistic Missiles of September 26, 1997, done at New York.

Article 10

This Federal Law shall enter into force upon the date of its official publication.

President of the Russian Federation

b. "On Control over Exports of Nuclear Materials, Equipment and Technologies from the Russian Federation" — Russian Presidential decree of 7 May 2000 amending the Presidential ordinance of 27 March 1992

[text as published by Itar-Tass (reproduced as received)]

Russia allows for exports of **nuclear** materials, equipment and technologies to countries which do not have **nuclear** armaments and have not put their activity under control of the International Atomic Energy Agency (IAEA), but only in exceptional cases and on a number of conditions.

"In exceptional cases such exports from the Russian Federation to a country, which does not have **nuclear** armaments, and has not put all of its nuclear activity under guarantee of the International Atomic Energy Agency, can be done on particular resolutions of the Russian Cabinet under the following conditions:

- -the supply does not run counter to the international commitments of the Russian Federation;
- -the government of the importing country gives official assurances to exclude the use of supplied materials, equipment and technologies for works that may result in the creation of a **nuclear** explosive;
- -the supply is made exclusively for the safe operation of **nuclear** facilities on territory of the importing country;
- -guarantees of the International Atomic Energy Agency are applied to the aforesaid facilities.

The Government of the Russian Federation has the right to set additional conditions for the exports."

ANNEX — Abbreviations of Sources

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

The Programme for Promoting Nuclear Non-Proliferation and the Newsbrief

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