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PROGRAMME FOR PROMOTING NUCLEAR NON-PROLIFERATION

Number 10 NEWSBRIEF Summer 1990

Editorial note

Newsbrief Number 10 of the Programme for Promoting Nuclear Non-Proliferation (PPNN) covers events that occurred in the area of nuclear non-proliferation during the second quarter of 1990, as well as some that took place earlier but did not become public knowledge at the time.

PPNN's **Newsbriefs** carry information relating to the spread of nuclear-weapon capabilities to additional States and on developments tending to deter that spread. They further contain references to related questions of arms control and to diplomatic, economic and technical issues that may affect nuclear non-proliferation.

Nuclear (non-)proliferation is an area where allegations and suspicions abound. The publication of unfounded or unsubstantiated rumours does not help to deter the spread of nuclear weapons. The **Newsbrief** seeks to publish only items based on information from reputable and reliable sources and to present them objectively and in a balanced manner. The Chairman of PPNN's Core Group acts as editor of the **Newsbrief** and is responsible for its contents. Unless expressly stated, the inclusion of an item does not imply the agreement of the members of the Core Group collectively or individually with its substance or with its relevance to PPNN's activities.

Readers who wish to comment on items included in the **Newsbrief**, or to draw attention to information they feel should be included, are invited to send their remarks to the editor for publication in a subsequent issue.

The **Newsbrief** is sent free of charge to institutions and persons interested in nuclear non-proliferation. Copies of previous issues are available upon request.

The aims and activities of the Programme for Promoting Nuclear Non-Proliferation (PPNN), under whose aegis the **Newsbrief** is published, are described briefly at the end of this issue.

I. Topical developments

a. Background

This issue of the PPNN **Newsbrief** appears shortly before the fourth Review Conference of the Nuclear Non-Proliferation Treaty, which will be held in Geneva in August/September 1990. Events occurring just prior to that conference are likely to be given special significance there. It should be remembered, however, that some of those events reflect long-standing issues and problems that have also played a role at previous review conferences.

A major *new* phenomenon is the fundamental change that has recently taken place in the European political landscape. On 6 July 1990, in London, the leaders of NATO made a joint statement, inter alia proposing to the member states of the Warsaw Treaty Organization 'a joint declaration in which we solemnly state that we are no longer adversaries and reaffirm our intention to refrain from the threat of use of force against the territorial integrity or political independence of any state ...'; invited President Gorbachov and representatives of the other Eastern and Central European countries to come to Brussels and address the North Atlantic Council; and proposed the establishment of diplomatic liaison between those countries and NATO. While not deciding on a total withdrawal of nuclear weapons from Europe, they agreed on proposals for a substantial reduction of NATO nuclear forces, including the elimination of all its nuclear artillery shells, and declared that they would be 'able to adopt a new NATO strategy making nuclear forces truly weapons of last resort'.

The NATO meeting followed a summit conference held from 31 May to 3 June in Washington, in which the Presidents of the Soviet Union and the United States reached agreement on a number of measures that will affect their strategic relationship. These include agreement on a substantial reduction of strategic delivery vehicles, the adoption of ceilings on the number of warheads in intercontinental and sea-launched ballistic missiles and in air-launched cruise missiles; an agreement to reduce stocks of chemical weapons and an agreement on verification methods to be applied under the Threshold Test Ban Treaty of 1974 and the Peaceful Nuclear Explosion Treaty of 1976. The two presidents also issued a joint statement on the non-proliferation of nuclear and chemical weapons, missiles and missile technology.

In preparation for the conference to amend the Partial Test Ban Treaty of 1963 a Meeting was held at United Nations Headquarters in New York, from 29 May to 8 June. More is said about that Meeting in section c., below.

Tensions in the Middle East have grown recently. The relations between India and Pakistan, which have deteriorated as a result of the deepening dispute over Kashmir, have not improved. Both situations arouse international concern about nuclear and missile proliferation. In the Middle East, the fact that a number of states have acquired a chemical-weapons capability or are in the process of doing so heightens the concern. The call of President Mubarak of Egypt to make of the Middle East a zone free of all weapons of mass destruction deserves special attention.

b. NPT Events

- The **Preparatory Committee** for the **Fourth Review Conference of the NPT** held its third and last session at United Nations Headquarters in Geneva, from 23 April until 2 May, 1990. It adopted a final report covering all three sessions, during which it had considered, inter alia, the dates and venue of the Conference (20 August-14 September, in Geneva); its provisional agenda; draft rules of procedure; the organization of the Committees of the Conference; financing (the USSR to pay 16.05%; The UK 6.13% and the USA 32.82% of the total, with the other parties dividing the balance in line with the UN scale of contributions); background documentation (10 working papers were prepared by the UN Secretariat; 3 by the IAEA and one each by OPANAL and the South Pacific Forum); and final document(s). 106 parties participated in one or more sessions of the Committee, as did representatives of the Secretary-General of the United Nations, the IAEA and OPANAL. The Committee unanimously decided to recommend to the Conference the election of Ambassador Oswaldo de Rivero of Peru as its President and nominated as Chairmen of the conference organs, — Main Committee I: Ambassador B.A. Adeyemi (Nigeria); Main Committee II: Ambassador T. Strulak (Poland); Main Committee III: Ambassador C. Yamada (Japan); Drafting Committee: Ambassador C-M. Hyltenius (Sweden); Credentials Committee Ambassador J. H. Groop (Finland). Mr. A. Prandler, Deputy to the United Nations Under-Secretary-General for Disarmament Affairs, was designated provisional Secretary-General of the Review Conference.
  China and **France** have announced that they will send observers to attend the fourth NPT review conference. It will be the first time that either of these states does so.
  France is also said to be weighing the possibility of acceding to the Treaty (**Personal information** from Conference Secretariat; **NuclearFuel**, May 14, 1990)

- **South African** sources in Western Europe are quoted as saying that their country is 'very close' to signing the NPT and that, 'domestic developments permitting', South Africa could do so before the review conference opens, on 20 August 1990. The fact that South Africa has shut down its pilot enrichment plant is seen in the United States as a sign of its intentions to join the Treaty (**NuclearFuel**, May 14 and 28, 1990).

c. Other Non-Proliferation Developments

- A commission appointed by the President of **Brazil**, Fernando Collor de Mello, has endorsed the proposal of concluding a bilateral nuclear security agreement with **Argentina** that would open unsafeguarded fuel cycle plants in both countries to 'mutual visits' (**NuclearFuel**, June 11, 1990).

- **Israel** has tentatively agreed with **Norway** to sell back to the latter 10.5 tons of heavy water which, it says, is all that remains of the 21 tons it received in 1960 (**Wall Street Journal**, April 30, 1990; **Nucleonics Week**, May 3, 1990).

- The parliament of the **Federal Republic of Germany** has adopted a new law which tightens controls on illegal trade in arms, allows the government to check on German nationals working abroad on missile projects and bars them from working on nuclear, biological and chemical weapons. The law prescribes jail terms for offenders, ranging from one year to life (**International Herald Tribune**, June 2/3, 1990)

- From 29 May to 8 June 1990 a **Meeting** was held at United Nations Headquarters for the organization of the conference that will consider **amending the Partial Test Ban Treaty** of 1963. Preparatory work for the Conference was completed by 1 June 1990 and was followed by a one-week session of the Conference, from 4 to 8 June. A second substantive session will take place from 7 to 18 January 1991. 93 states party to the PTBT participated in the Meeting, which was presided over by Ambassador E. Jayasinghe of Sri Lanka.

d. Nuclear Trade and International Cooperation

- **Argentina**'s plans to export low-enriched uranium to **Brazil**, for use in its power reactors, and medium-enriched fuel for its research reactors, are reported to be in abeyance because of problems at the pilot enrichment plant.
  Argentina has 'practically concluded negotiations' with **Syria** for the sale of a 10-MW isotope production reactor and related facilities. It intends to supply the 20% enriched uranium from the enrichment plant at Pilcaniyeu.
  Discussions about possible nuclear exports from Argentina are also said to be going on with **Egypt**, **Iran**, **Morocco**, **Saudi Arabia**, and **Tunisia**.
  Argentina has categorically denied having concluded an agreement with **Iraq** (**NuclearFuel**, June 11,1990; **Nucleonics Week**, April 26 and May 31, 1990).

- **Canada** has simplified its uranium export policy. While the basic rule, that Canadian uranium meant for enrichment abroad shall be upgraded as much as possible before export, remains intact, an exemption will be made if the uranium is to be converted, enriched or consumed in the United States or if the Canadian converter is not successful in bidding for conversion services as a result of commercial considerations (**NuclearFuel**, May 28,1990).

- Talks between **France** and **Pakistan** on the supply of a power reactor are continuing. The most urgent problem now seems to be financial. Pakistan is said to be looking for funds in **Japan**, and also hopes to involve **Belgium** and **Italy** (**Nuclear News**, March 1990; **Nucleonics Week**, March 29 and April 19 and 26, 1990).

- The **USSR** may shortly start exporting enriched uranium to the **Republic of Korea**. South Korea currently buys most of its uranium from Australia and Canada and has it enriched in the United States.
  A protocol on economic cooperation was signed recently by the USSR and **Iran**. This includes a project for the supply of two Soviet VVER-440 power reactors.
  It has so far been the Soviet custom to take back fuel irradiated in the reactors it sells abroad (although there are indications that this may be changing — editor). It has recently become known that the spent fuel from the Loviisa power plant, in Finland, is shipped to the Chelyabinsk nuclear waste treatment plant in the southern

Urals (**Nuclear News**, April 1990; **Helsingin Sanomat**, 2 February 1990, in JPRS-TND-90-008, 29 April 1990)

- In the **United Kingdom**, British Nuclear Fuels (BNFL) and the newly created company AEA Fuel Services are trying to attract customers for reprocessing services for spent fuel from power and research reactors, respectively. BNFL has signed a first reprocessing contract with a German utility company (**NuclearFuel**, April 16 and 30 and May 14, 1990).

- The **United States** is lifting COCOM export restrictions on specific nuclear technologies with respect to the German Democratic Republic, Czechoslovakia, Hungary and Poland but not the USSR.
  A licence has been issued to **Canada** for the use of tritium gas on condition that it is not to be reexported without prior US consent and that any reexport of products containing more than 40 curies of tritium may be made only to the US.
  The Nuclear Regulatory Commission will modify its regulations to allow uranium from **Namibia** to be imported under a general licence; one request for import of Namibian uranium has already been received.
  The US administration is considering a plan to buy uranium enrichment services in the **Soviet Union**. This would permit the US Department of Energy to modernize its own obsolete enrichment installations while obtaining enriched uranium at prices lower than those charged nationally. Negotiations are underway but are turning out to be politically difficult (**NuclearFuel**, April 30, May 14 and 28 and June 11,1990; **Nucleonics Week**, April 14 and 19,1990; **The Washington Post National Weekly Edition**, June 25-July 1, 1990).

e. IAEA Developments

- **Safeguards Statistics**: In 1989, 211 IAEA inspectors performed nearly 2200 safeguards inspections worldwide. Nearly 1950 films from 285 automatic surveillance cameras were reviewed and 13,500 seals (affixed to camera housings, other IAEA equipment, nuclear material storage areas and containers) were checked and verified. At the end of 1989 172 safeguards agreements were in force with 102 states. In 59 states with significant nuclear activities, 924 installations were under safeguards. In 1989 the safeguards budget was $52,920,000. (**IAEA News Features** number 7, April 1990).

- The IAEA is studying a **new inspection regime** for large fuel fabrication facilities at General Electric's fuel fabrication plant at Wilmington, N.C. The regime being studied, called Short Notice Random Inspections (SNRI), involves unannounced, random inspections and the randomization of the inspection activities themselves (**NuclearFuel**, April 16,1990).

f. Peaceful Nuclear Developments

- The IAEA has announced that in fifteen countries the percentage of electricity produced by nuclear power grew again in 1989. Worldwide, about 17%, or one-sixth, of total electricity generation came from nuclear power plants, with five industrialized countries deriving between half and three-fourths of their total electricity from nuclear power (**IAEA Press Release** PR 90/7 18 April 1990).

- A joint OECD/IAEA report on world **Uranium Resources, Production and Demand** estimates that by the end of the century supply and demand should be more in balance than before. Even if demand remains low, currently known resources are not expected to be sufficient to cover projected demand after 2005 (**IAEA Press Release** PR 90/14, 19 June 1990).

- **Reactor Safety**: there have been many reports recently about shortcomings in Soviet-designed reactors supplied to Eastern European States and about the inadequacy of safety practices followed there. Increasingly, governments in the area approach the IAEA for safety assessments of the installations and advice on means to improve them, and on the upgrading of operating procedures. Reports about a near-catastrophe at the Greifswald power station in the German Democratic Republic, in 1975, have worsened concern regarding materials used, construction, maintenance and emergency procedures. Eastern Europe puts heavy reliance on nuclear energy and could hardly do without it: in Czechoslovakia 27% of electricity is produced by nuclear means; in Bulgaria 30%; in the German Democratic Republic 11% and in Hungary 33%. Much of the area produces coal, especially bituminous coal, but any increase in the use of this or other fossil fuel would add to the already disastrous pollution levels (**New York Times**, April 7, 1990; **Nucleonics Week**, May 24, 1990; **International Herald Tribune**, June 8 and 25, 1990)

- **Cold Fusion** research is going on, with some contradictory results. While some scientists have reported that the process produced sizeable amounts of tritium, which might point to a nuclear reaction of some kind, a recent report from Texas A&M University ascribes this to possible contamination, thus giving new grounds for the charge that 'cold fusion' is an illusion (**Wall Street Journal (Europe)**, June 8/9, 1990).

- **Brazil**'s initially ambitious nuclear program, aimed at making it self-sufficient in all aspects of nuclear energy and its fuel cycle is held up by technical problems and a lack of funds. The great investments made over the past twenty years have led only to the completion of one nuclear power plant, Angra 1, with a poor performance record, and the construction of two further units, of which one is 90% complete and the other 2% (**Nuclear Engineering International**, April 1990).

- In **Czechoslovakia** an IAEA mission evaluating the Temelin-1 and -2 VVER-1000 PWRs has found the quality assurance of the installation satisfactory but recommended a major overhaul of project management and operations. A further IAEA review will look at some generic safety aspects of the reactor design. Work on units 3 and 4 has been suspended indefinitely (**Nucleonics Week**, May 24, 1990).

- A working group from the **Federal Republic of Germany** and the **German Democratic Republic** has started

preparations of a unified German nuclear law, although some believe that with unification the West German law will become binding on the country as a whole. One problem is that this law provides for public intervention in the nuclear licensing process and none of the ten power units now operating or being built in the GDR meets West German licensing standards (**Nucleonics Week**, March 29,1990).

- **India** still expects to have in place 10,000-MWe of nuclear generation by the year 2000. There are long-term plans for the use of thorium-232 (of which India has the largest deposits in the world) by converting it into uranium-233 in breeder reactors. (**Nuclear News**, April 1990).

- In response to criticism of its plans to have its spent fuel reprocessed in Europe and bring the extracted plutonium back to **Japan**, that country asserts it needs the material for its nuclear programs, specifically the Monju prototype fast breeder reactor, which is due to go critical in October 1992. It is calculated that over 1990-92 a group of smaller installations will need a total of 300 kg of fissile plutonium and Monju about 1.3 tonnes. Japan had originally planned to bring back its plutonium by air as separated PuO_2 but this met with resistance from, especially, the **United States**. Given growing international concern at the prospect that large amounts of weapons-usable plutonium will be carried by ship over long distances, there are suggestions in Japan that the material might be brought back in the form of mixed-oxide (MOX) fuel, fabricated in **Belgium** or **France**, but no decision has been announced on this point. Construction of a commercial-scale reprocessing plant, which should be operational in 1997 at Rokkasho-Mura in Aomori prefecture in northern Honshu, is held up by a long safety review (**NuclearFuel**, April 2 and June 11, 1990).

- In a regional referendum in **Poland**, on 27 May 1990, voters rejected continuation of construction of two power reactors at Zarnowiec, near Gdansk. Voter turnout was only 40%. Construction of the two VVER-440 reactors, which was 40% complete, was interrupted late last year because of lack of funds. (**Nucleonics Week**, June 7,1990).

- **South Africa** has announced that it has developed a very advanced process of fabricating nuclear fuel elements and has thus become independent of overseas supplies of fuel for its power reactors (**Cape Times**, 25 April 1990, in JPRS-TND-90-010)

- Four years after the fire and explosion at the No. 4 reactor at Chernobyl, the **USSR** has revealed that the consequences of the event were much greater than was originally admitted. The thyroid glands of 150,000 people are said to be seriously affected; in some parts of the Ukraine the incidence of thyroid cancer is many times higher than normal, as is the level of leukaemia among children. One out of every five Byelorussians is living in a contaminated region. The medical implications look increasingly serious as time goes by and the initial cover-up of information has led to have created wide-spread distrust.

In the framework of the IAEA a major international project is underway to assess the radiological consequences of the accident, involving one hundred international experts. The work — for which the plan was approved by an International Advisory Committee composed of experts from Austria, Byelorussian SSR, Canada, Finland, France, Japan, United Kingdom, Ukrainian SSR, USA and USSR, and from CEC, FAO, UNSCEAR, WHO and the IAEA — includes an independent review of the health and environmental effects of the accident and an evaluation of the protective measures taken by the Soviet authorities.
Satellite photos on 6 June showed a large cloud formation over the USSR moving to Scandinavia. This prompted speculation in the media that an accident had occurred in a Soviet nuclear reactor. Dutch, Finnish and US sources have announced that monitoring had not revealed any increase in radioactivity (**The New York Times**, April 28, 1990; **IAEA Newsbrief**, Vol. 5, No. 4, May 1990; **US Council for Energy Awareness**, June 6, 1990; the **Financial Times**, 7 June 1990).

- It is now known that the incident at the Plant Vogtle nuclear power station in Georgia, in the **United States**, on 21 March 1990, when a truck ran into a power pole, causing a 36-minute interruption of the supply of power to the plant, was potentially more serious than earlier reported. One of the reactors was shut down for refuelling. The power cut-off and the failure of one of the two back-up generators (the other was off-line for maintenance) caused the second reactor to shut down as well, and gave rise to a 'site area emergency' alert. The case has prompted the US Nuclear Regulatory Commission to make an investigation and is evoking the criticism that — with specific reference to blackouts, which are considered a major potential cause of accidents at nuclear installations — the NRC is avoiding its regulatory responsibility (**The New York Times**, April 1, 1990).

g. Developments of Concern for Vertical Proliferation

- The frequency of **nuclear tests** detected in 1989 declined 'dramatically' as compared to previous years. In all of 1989, 26 tests were detected, as against 40 the year before and 47 in 1987. During the last quarter of 1989, 9 tests are reported: four made by **France**, two each by the **USSR** and the **USA** and one by the **UK** jointly with the USA.
China is not thought to have done any testing in 1989, but has since been reported to have detonated a nuclear weapon with a yield of 40 to 50 kilotons.
After public protests, the **USSR** has stopped using its test site at Semipalatinsk. It has announced that it would transfer its testing programme to Novaya Zemlya, where according to a Soviet report the last nuclear test took place in October 1989. The news has raised concern in Canada, Finland and Norway, as well as in the USSR itself. The site was visited recently for the first time by Soviet legislators, members of the Government and other officials (**Pacific Research**, February 1990; **The Washington Post**, May 31, 1990; **Novosti Press Agency**, quoting **Rabochaya Tribuna**, 6 June 1990).

- Discussions are underway among Western allies about the kinds of nuclear weapons that should be based in a united **Germany**. There is resistance to the idea of making a

united Germany a nuclear-weapon-free zone, not only for military reasons but also to reaffirm Germany's strategic links to the West and to stifle any German wish to acquire nuclear weapons (**The New York Times**, April 29, 1990).

- Current tests of a new submarine propulsion reactor at a United States Government installation at Schenectady, New York, are said by the Natural Resources Defense Council to be in violation of legislation to protect the environment, since there is neither an emergency cooling system nor a containment structure and no environmental impact statement has been prepared. The US Navy has called the reactor 'an entirely new concept of a pressurized water reactor'. It is intended for a new Seawolf-class of attack submarines, operating at greater speed and depth and more quietly than the Los Angeles-class boats now in use. The new submarine is a high priority of the Navy and will probably not be affected by present moves to reduce the defence budget (**The New York Times**, April 26, 1990).

- The **USSR** has raised objections to the transfer by the **USA** of Trident D-5 submarine-launched ballistic missiles to the **UK**. It reportedly insists that those missiles should be counted against the American arsenal in the framework of the Strategic Arms Reduction Talks (START). This could be a major obstacle on the way to a treaty on the reduction of strategic arms, but there is some thought that it is being used by the USSR to bargain against US wishes to limit modernization of the Soviet SS-18, include the Backfire bomber and verify restraints on the mobile SS-25 (**Washington Times**, June 8, 1990)

- The second round of talks between the member states of NATO and of the Warsaw Treaty Organization, on **Open Skies**, which was held in Budapest in the end of April, again left a number of issues unresolved. Problems include the question of data-sharing; whose airplanes should be used; and the type of sensors to be allowed, and seem to be due in part to the fact that one side's technology is superior to the other's and partly also to suspicion among participating countries, some of them members of the same treaty organization. The talks are to be resumed this summer (**Trust and Verify**, May 1990).

- In the **United States** a Federal judge has struck down an ordnance of the city of Oakland, California, proclaiming that city a nuclear-free zone. The judge accepted arguments by the Department of Justice that the measure interfered with the Federal Government's constitutional authority over national defence and atomic energy.
  Voters in Alameda County, California, have defeated an initiative that would have declared that county (where the Livermore and Sandia Laboratories and the Vallecitos nuclear facility are located) a nuclear-free zone (**The New York Times**, April 28, 1990; **US Council for Energy Awareness**, June 6, 1990).

- Also in the **United States,** computer simulations carried out in 1988 of the way nuclear warheads react under certain operating conditions have revealed that the W-79 warheads of 8-inch nuclear artillery shells stored in Italy, the Federal Republic of Germany, the Netherlands and the United States were vulnerable to inadvertent detonation had they been struck in a particular way. The shells are designed to have a battlefield yield of 10-kiloton. They were disabled, pending the installation of a mechanism to block accidental detonation. This was reportedly done in 1989.
  The problem with the W-79 has led to the suspension of the development of a slightly smaller nuclear artillery warhead, the W-82. In 1989, in a secret vote, the US Congress decided to withhold funds for this projectile until the Administration certified that it was safe. On 3 May, President Bush announced that he would halt deployment of the W-82 in response to the declining military threat in Europe. Apparently, this is not connected to the safety problem.
  Problems also appear to exist with the W-69 warhead of the Short Range Attack Missile (SRAM-A), which is deployed on B-52, B-1B and FB-111A bombers stationed in the United States. It is said that an accident with one of these missiles might result in wide dispersal of plutonium. The Defense Department has ordered these weapons to be removed until a safety review is completed.
  Also, a special committee has been appointed to review the safety of the W-88 warhead on the new D-5 missile now being deployed on Trident submarines. That warhead is said to be prone to accidental detonation, if ever the propellant fuel in the missile should catch fire, e.g. during loading. The high risks of accidental explosion of warheads such as the W-79 and the W-88 are explained to be due to the fact that in order to make them small and light, they use a light and extremely volatile explosive rather than one more insensitive and heavier. Also, in order to achieve the highest possible explosive yield, so much plutonium has been packed into their core that they are very close to a critical mass and are said to be 'on the edge of safety' by virtue of their design (**The Washington Post** and the **International Herald Tribune**, May 23, 1990; **The Washington Post National Weekly Edition**, May 28-June 3, 1990; **The New York Times**, May 24 and June 9, 1990).

- The environmental, health and safety problems at the nuclear installations serving **United States** defence needs, and the questions of how to clean them up, whether to repair or replace them, and how to pay the huge costs this will involve, remain a source of concern for the public and for the Administration. New details about past mismanagement and disregard of health and safety standards are published almost daily. The Department of Energy estimates that over 1991-5 the start-up cost of dealing with the nuclear and toxic contamination at 17 nuclear-weapon production plants in 12 states will be $28.6 billionn. The entire job is expected to take from twenty to fifty years, involve a total of 122 sites in 30 states and cost between $100 billion and $200 billion.
  Recent reports speak of indiscriminate disposal of radioactive waste in the environment around the Hanford production reactors in Washington State during the 1940s, exposing tens of thousands of residents to radiation doses that were up to 1200 times those the Department of Energy now considers safe for people living around its nuclear weapons plants and many thousands of times higher than the radiation emitted during the nuclear accident at Three Mile Island, in 1979. One effect noted in the area is an extremely high incidence of thyroid disorders among longtime residents.
  Until recently, the Department of Energy had planned for

the Rocky Flats Plant, where plutonium is fabricated into triggers for nuclear weapons, to be restarted in the course of July, 1990. A departmental panel of experts has now advised that so much remains to be done that restart on the planned date appears impractical and may not be possible during 1990. This might affect plans to equip the US Navy with new powerful warheads for its Trident missiles.
The re-start of the first of three plutonium-production reactors at Savannah River is delayed once again. This is now scheduled to begin low-level testing in December, with the second to follow in March and the third in September 1991. These dates do not take account of present lawsuits against the Department of Energy, calling for a further halt in the operation of the reactors.
A report of the Inspector General of the Department of Energy concludes that the Department has still not developed a comprehensive database that would permit managers to assure the public that environmental requirements and violations at its research and defence facilities are identified and corrected (**The New York Times**, May 2, June 6 and July 4, 12 and 13, 1990; **INSIDE ENERGY/with FEDERAL LANDS**, May 28, 1990; **the Washington Post National Weekly Edition**, July 9-15, 1990).

- Proposals to replace defective nuclear defence plants by converting unfinished commercial facilities for tritium and plutonium production are resisted by nonproliferation advocates, who feel that this would constitute a very dangerous precedent. The Department of Energy sees this as a contingency option; it estimates that it would cost $7.7 billion to build two new production reactors. Congressional opponents believe that conversion has little or no advantage in terms of cost, technology, and time, and see unfavourable political consequences. A draft memorandum from the office of Sen. Edward Kennedy calling for conversion of the 63%-finished commercial WNP-1 reactor has caused negative reactions and the Senator has let it be known that he does not necessarily embrace its contents.
The Department of Energy is considering reprocessing spent fuel from the only American commercial high-temperature gas-cooled reactor (MHTGR), at Fort St. Vrain, in Colorado,which was built as a demonstration project and is scheduled for decommissioning. The irradiated fuel cannot be stored at the Idaho Nuclear Engineering Laboratory (INEL), following a refusal by the Governor of Idaho to accept more nuclear fuel for interim storage. The Department would use the extracted plutonium for weapons production, but opponents argue that it would be illegal to do so.
A group of 54 eminent American diplomats, scientists and specialists in related fields have written to Presidents Bush and Gorbachev to call for an immediate halt in the production of nuclear material for weapons purposes through the shut-down of all nuclear production facilities (**The Energy Daily**, May 7, 1990; **Press Release of the Nuclear Control Institute**, May 25, 1990; **Nucleonics Week**, May 31, 1990).

h. Developments of Concern for Horizontal Proliferation

- In **Argentina**, development of the medium-range 'Condor II' ballistic missile has been suspended. The reason is said to be lack of funds, although it is also known that the US government has exerted pressure on Argentina to halt the project, which was supposedly carried out in cooperation with **Egypt** and **Iraq**. A source in the Argentine air force has connected the suspension of the 'Condor II project' with attempts to sell IA-63 'Pampa' training planes to the **United States**.
Operating problems at the pilot enrichment plant in Patagonia have apparently put a halt to plans to export 2% to 20% enriched uranium to **Brazil** (Buenos Aires **DYN**, 21 April 1990; **CLARIN**, 22, 25 (2 x) and 29 April 1990; **TELAM**, 27 April 1990 (2 x); Madrid **EFE**, 28 April 1990 - all in JPRS-TND-90-009, 15 May 1990; **NuclearFuel**, June 11, 1990).

- The chairman of **Brazil**'s National Commission for Nuclear Energy (CNEN), Dr. Rex Nazareth, was replaced on 21 March by Prof. Jose Luiz de Carvalho Santana. CNEN itself has been placed under the Strategic Affairs Secretariat of the Brazilian government. Nazareth was said to have close relations with the military, and to maintain a secret bank account to fund operations of the nuclear 'parallel programme'. In an interview shortly after his appointment, Santana announced that Brazil's nuclear programme would be reviewed; confirmed that it would be used exclusively for peaceful purposes; that the move of CNEN did not point to increased military involvement but was the confirmation of the strategic nature of nuclear energy; and that Brazil would never tolerate the placement of its entire nuclear programme under international 'supervision'. Reports that Brazil had secretly bought components for its nuclear programme, to avoid international safeguards, have been denied (**O Estado de Sao Paulo**, 22 March and 18 April 1990; **Folha de Sao Paulo**, 16 April 1990; **Brasilia Domestic Service**, 17 April 1990, all in JPRS-TND-90-008, 29 April 1990)

- **Chile** has denied a report in Jane's Defence Weekly that it is capable of producing nuclear weapons. Chile's defence minister has stated that as a signatory of the Treaty of Tlatelolco his country 'cannot engage in a project of that type' (**Santiago Radio Chilena**, 4 and 5 April 1990, in JPRS-TND-90-009, 15 May 1990).

- There is growing concern about **the Democratic People's Republic of Korea**'s tardiness in concluding a safeguards agreement with the IAEA pursuant to the NPT. Reports from the **Republic of Korea** (South Korea) display unease at the situation and increasing suspicion about North Korea's motivations. There are calls in Seoul for a reconsideration of South Korea's non-nuclear status. **Japan** is said to have asked the **USSR** to urge Pyongyang to conclude the agreement as soon as possible, and according to a report from Seoul there is 'hope' in the IAEA that the negotiations may be concluded by September, when the Agency's General Conference is held. Meanwhile, reports continue that North Korea is constructing a reprocessing plant for the extraction of the plutonium produced in its indigenously constructed (and so far un-safeguarded) reactor. There are signs that one of the ways in which North Korea has obtained the necessary technology is through an association of Korean residents in Japan, working in high-technology fields. It is also alleged that in recent years there have been many instances of highly sophisticated equipment being smuggled from Japan into North Korea (**Various Radio and TV reports** from Seoul, on 3, 11, 15, 18 and 22 April 1990, in JPRS-

TND-90-008, 29 April 1990, and JPRS-TND-90-009, 15 May 1990; **Public Affairs Guidance** from the office of the Assistant Secretary for International Security Affairs, Department of Defense, 13 April 1990).

- **Egypt** has denied reports of cooperation with **Argentina** on the purchase there of a 20-Mw research reactor for the purpose of producing plutonium. The fact is that it has asked various countries to bid for the construction of a high-flux reactor for peaceful nuclear research. Argentina is one of the countries that has submitted a bid; the others are **Canada, France** and the **United States**. Egypt is a party to the NPT and its entire nuclear programme is subject to IAEA safeguards (**The Times** (London), 5 April 1990; **Editor's personal information; Nucleonics Week** April 26,1990).

- Senior **Indian** officials are increasingly heard to say that their country may have to reconsider its nuclear policy 'if **Pakistan** goes nuclear'. For what is said to be the first time there are members of the Indian defence establishment who publicly argue in favour of exercising the nuclear option. Reports about Pakistan's nuclear efforts are given prominence in the Indian media. According to some of those reports — said to be based largely on information from Western sources — Pakistan may now have between five and ten bombs of the kind dropped on Hiroshima and is constructing an enriched-uranium reactor for the production of plutonium, as well as a tritium plant, indicating plans to produce hydrogen weapons. Pakistani and Soviet sources, on the other hand, are quoted in the media as believing that India is quickly moving towards a nuclear capability. It is said to have enough separated plutonium on hand for 40 to 60 bombs. Both states have advanced aircraft with which they could deliver such weapons. Coming against the background of increased tension over Kashmir, these reports raise serious concern. Neither state is as yet thought to have deployed nuclear weapons, but the risk that another conflict between them might sooner or later prompt one to have recourse to nuclear means, leading to retaliation by the other, is now recognised as a real possibility (**Delhi Domestic Radio Service**, 8 March 1990, in JPRS-TND-90-006, 16 March 1990; **The Madras Hindu**, 19 February 1990, in JPRS-TND-90-008, 29 April 1990, and 28 February and 9 March 1990, in JPRS-TND-90-009, 15 May 1990; **The Telegraph** (Calcutta), 11 March 1990, ibid.; **The Washington Post**, April 15, 1990; **The New York Times**, May 21, 1990; **Wall Street Journal**, May 24, 1990; **The Sunday Times** (London), 27 May 1990; OpEd article by Leonard S. Spector in **The New York Times**, June 7, 1990)

- There are persistent allegations in primarily Western media that **Iraq** is seeking to develop a military nuclear capacity. These are seen in combination with authoritative reports that it has acquired several kinds of ballistic missiles (including an effective medium-range missile), is working on their further development, and is now seeking sites abroad to test new long-range missiles, and that it has a proven chemical-weapon capacity, which was specifically mentioned, recently, in a forceful statement by its leader. Considered in the context of present tensions in the area of the Middle East, this is given special importance in the press, particularly taken together with recent reports about attempts to obtain miniaturised electronic capacitors that might be used in the detonation of nuclear weapons, and about the shipment of components of a giant cannon, capable of firing large shells over great distances. Iraq (which is a party to the NPT) is also said to be in the market for the purchase of uranium-enrichment equipment from foreign firms, although it is generally acknowledged that it would probably need up to ten years to acquire a substantial enrichment capacity (recent press references to Iraq's nuclear ambitions include: **The Sunday Telegraph**, 1 April 1990; **NuclearFuel**, April 2, 1990; **Wall Street Journal** and **The Washington Post**, April 4, 1990; **The New York Times**, April 3 and 8, 1990; **The Washington Post**, April 4, 1990; **Time, U.S. News and World Report**, and the **Wall Street Journal**, April 9, 1990; the **Washington Times**, April 10, 1990; **Arms Control Today**, April 1990; **Business Week**, April 16, 1990; **Christian Science Monitor**, April 9 and 20, 1990. Press references to the 'Giant Gun' affair include: the **Washington Times**, April 12, 1990; **The Washington Post**, April 14 and May 13, 1990; **The Japan Times**, April 15, 1990; **The New York Times**, April 13, 19, 20 and 22; the **Financial Times**, April 18 and May 2; the **Manchester Guardian Weekly**, April 29 1990 and **De Standaard** (Belgium), 18 May 1990, in JPRS-TND-90-010, 12 June 1990. References to Iraq's missile capabilities are made in **Arms Control Today**, April 1990; **The New York Times**, April 24, 1990, and the **Washington Times**, June 3, 1990).

- **Iraq** has denied the allegations, ascribing them to a concerted attempt by the US, UK and Israel to discredit its intentions. The forceful response by its head of state - who denied that Iraq had nuclear weapons but confirmed it had a chemical capability which it would use if necessary - is applauded in a number of Arab states, who are said to see Iraq as a champion of their cause. Iraqi authorities contend that the capacitors intercepted at London airport were bought for use at the University of Technology in Iraq, in an open and ordinary commercial transaction; that Iraq is capable of manufacturing similar items and has no need to smuggle them. To illustrate their contention that the allegations of smuggling are part of an international campaign to slander their country, Iraqi officials have handed British authorities a package said to contain electrical devices marked 'nuclear triggers', that was supposedly received at the Iraqi Embassy in London. The IAEA has announced that in early April it carried out one of its routine safeguards inspections of Iraq's nuclear facilities, and of the enriched uranium in Iraq, intended for use in the reactor at Osiraq that was destroyed by Israel in 1981. A statement issued by the IAEA at the request of the Iraqi authorities confirms that all material under safeguards had been accounted for. (**Iraqi News Agency (INA)**, 3, 11, 17 and 19 April 1990, in JPRS-TND-90-008, 29 April 1990; **The New York Times**, April 3 and 4 and May 4 (OpEd article by Mohammed Al-Mashat, Ambassador of Iraq to the US) and 9; **Japan Times**, April 15, 1990; **The Washington Post**, May 11, 1990; **Saudi Gazette**, May 23, 1990; material and clarifications supplied by Iraqi Ministry of Foreign Affairs, in **IAEA Documents INFCIRC/380**, 10 April 1990, and **380/Add.1**, 20 April 1990; **IAEA PR** 90/10, 7 May 1990).

- As the US authorities are holding up the export of a 'supercomputer' to **Israel**, that country is now said to be considering constructing this device with the help of West

German experts.
The appeal by Mordechai Vanunu, who had earlier been sentenced to an 18-year jail term for having revealed information about the nuclear installations at Dimona, has been denied (**The New York Times**, May 17, 1990; **Syria Times**, 28 May 1990; **Nucleonics Week**, May 31, 1990).

- The **Libyan** leader, Col. Muammar al-Qadhdhafi, has called on his country's academic community to make an immediate start with the conquest of space and the creation of a nuclear industry. Col. Qadhdhafi is quoted as saying '...we should have a nuclear bomb'. (**Tripoli Television Service**, 19 April 1990, in JPRS-TND-90-008, 29 April 1990; **Neue Zuercher Zeitung**, 19 June 1990)

- **Pakistan:** Washington is increasingly concerned about the sale to Pakistan of a **French/German** power reactor, without the requirement of full-scope safeguards. An offer by **Belgium** to participate in the project, reportedly well-received in Pakistan, appears to have been made against opposition within the Belgium government.
Firms in the **Federal Republic of Germany** are said to have contributed substantially to Pakistan's presumed nuclear capability by providing, inter alia, a natural uranium conversion plant; special steel, electronics and processing vessels to produce nuclear-weapon material; the design for a reactor to produce tritium; and a tritium purification plant.
Pakistan is reported to have fitted special racks to its F-16 planes designed to carry nuclear bombs but denies **Indian** charges that it is involved in the development of a military nuclear capability (Karachi **DAWN**, 23 March 1990, in JPRS-TND-90, 15 May 1990; **NuclearFuel**, May 14, 1990; **Arab News** (Saudi Arabia), 21 May 1990; **New York Times**, May 21,1990; **Tehran Times**, May 24, 1990; **The Sunday Times** (London), 27 May 1990; **The Bulletin of the Atomic Scientists:** Letter to the editor from Jozef Goldblat, June 1990; OpEd article by Gary Milhollin, **The Washington Post**, June 10, 1990).

- **Rumania** has confirmed that it transhipped to **India** 12.5 tons of heavy water which it received from **Norway** in 1986.
Canada has denied that Rumania has used the Candu power-reactor project at Cernavoda to develop a nuclear weapon, as alleged by a former general in the Romanian secret police who defected in 1978.
It is known that Rumania has constructed a heavy-water plant of its own with European technology; this does not yet seem to be in operation (**The New York Times** and **Aftenposten** (Oslo), 30 April, 1990; **NuclearFuel** May 14, 1990).

- In **Taiwan**, the parliamentary auditing body has been refused access to the records of the Chung Shan Institute of Scientific Research in Hsinchu on the reported grounds that it is involved in the development of nuclear weapons (**Far Eastern Economic Review**, 3 May 1990).

- There is continuing speculation about the risk of nuclear weapons in the **USSR** falling into the hands of nationalist extremists or political radicals, who might either use them for direct nuclear terrorism or hand them over to other countries. Soviet sources downplay the danger and stress the 'high dependability and system of protecting nuclear weaponry' but according to Washington officials, Moscow has begun removing nuclear warheads from the more volatile republics. Some see a chance of similar problems arising in **China**, where tactical nuclear weapons are widely deployed (**Sunday Telegraph**, 25 March 1990; **The New York Times**, April 14, 1990; **Novosti Press Agency**, 11 May 1990, quoting Maj.-Gen. G. Batenin, military expert of the Central Committee of the CPSU; **The International Herald Tribune**, June 23/24 and June 25, 1990)

- In the **United States** the possibility is being discussed of easing restrictions on the export of some dual-use high-technology items, such as supercomputers, partly in response to European proposals within COCOM — especially German ones — to decontrol such items, and partly as a result of pressure from American manufacturers on the Bush administration.
At the same time, there is criticism of the US administration's apparent laxness in taking action against friendly governments that do little or nothing to prevent their industries from supplying third countries with items obviously intended to for the fabrication of chemical or nuclear weapons or their means of delivery. The US Department of Commerce has fined the West-German firm Degussa A.G. $800,000 for its illegal re-export of beryllium of U.S. origin to the Democratic People's Republic of Korea and India, among others.
Twenty-three members of the US Senate have written to the **West German** Parliament urging speedy enactment of export-control legislation concerning the proliferation of nuclear and chemical weapons and missiles capable of delivering them (see section c., above).
The United States' approval of **Japan**'s plans to have its spent reactor fuel reprocessed in Europe and to ship the resulting large amounts of plutonium (reportedly totalling 150 tons over 30 years) back to Japan, by sea, protected only by a lightly-armed coast guard cutter, remains a source of public concern (OpEd articles by Amit Gupta in **Chicago Tribune**, April 11, 1990; Gary Milhollin in **The Washington Post**, April 1, 1990 and **The Washington Post National Weekly Edition**, April 9-15, 1990; Paul Leventhal, Milton Hoenig and Deborah Holland in **The Japan Times**, April 15, 1990; and Adms. Stansfield Turner and Thomas Davies in **The New York Times**, April 28, 1990; **NuclearFuel**, April 2 and May 28, 1990; **The Washington Post**, April 11, 1990; **US Department of Commerce News**, April 28, 1990; Sen. John Glenn, **Press Release**, May 15, 1990).

- Nuclear Submarines: in **Brazil**, the Admiral in charge of reactor research at the Institute for Nuclear and Energy Research (IPEN) has stressed the importance for his country of nuclear-powered submarines and described the success of the Navy's propulsion program. The Brazilian Navy and IPEN are jointly planning to construct an advanced nuclear reactor, based on exclusively domestic technology, which should start up in 8 to 10 years.

- **India** has confirmed that it is getting a second nuclear-powered submarine from the USSR. While the first Charlie-I class boat ('Chakra') was obtained on a lease due to expire in 2001, India prefers to buy the second vessel

outright to eliminate 'operational constraints' (**O Globo** (Rio de Janeiro), 11 March 1990, in JPRS-TND-90-008, 29 April 1990; **Arab News** (Saudi Arabia), May 21, 1990).

II. PPNN ACTIVITIES

- The second **PPNN Conference** for working-level diplomats on issues likely to arise during the fourth NPT review conference took place in Guernsey over the weekend of 11-14 May 1990. 36 diplomats nominated by states parties to the NPT attended, together with members of the PPNN Core Group and observers from the IAEA and the United Nations.

  The conference, chaired by Ben Sanders, was initiated with a keynote speech from Ambassador Osvaldo de Rivero, Permanent Representative of Peru to the Conference on Disarmament in Geneva and President-designate of the 1990 NPT review conference. [The text of this speech was circulated with the last edition of the Newsbrief: additional copies may be obtained from PPNN's Southampton office]. The majority of the discussions took place in working groups, and the conference concluded with plenary sessions in which the chairmen of these groups summarised the substance of the exchanges.

  All participants were provided with a bound volume of articles relevant to the review conference, and at a later date will be provided with copies of the **PPNN Briefing Book.**

- The PPNN Core Group held its sixth semi-annual meeting from 23-26th June 1990 in Geneva. This meeting was organised in conjunction with the Programme for Strategic and International Studies of the Graduate Institute of International Studies, University of Geneva. All members of the PPNN Core Group were present, with the exception of Ambassador Roland Timerbaev (USSR). Dr Arpad Prandler attended as an observer from the United Nations Disarmament Affairs Department and Michael Wilmshurst as an observer from the IAEA. Also present were Professor Kurt Gasteyger and Dr Fred Tanner from the Graduate Institute, Geneva; Ambassador Victor Issraelyan (former USSR Ambassador to the CD); Mrs Hilary Palmer (Rockefeller Brothers Fund); Dr Peter Tempus (former Head of IAEA Safeguards); Professor William C. Potter (Monterey Institute of International Studies, USA) and Dr Gordon Thompson (Proliferation Reform Project, Institute for Resource and Security Studies, USA).

  This meeting centred upon a one day seminar on Monday, 25th June for senior diplomats stationed in Geneva on issues likely to arise at the NPT. Some 40 Ambassadors and senior diplomats attended, as did Prince Sadruddin Aga Khan, the head of the Groupe de Bellerive. The discussions were initiated by short presentations on the many issues likely to figure large in the review conference debates from members of the PPNN Core Group. Copies of the **PPNN Briefing Book, Volume II** (see below) were circulated to all those attending.

- The Core Group continued its analysis of the issues likely to be central to the discussions at the review conference with a presentation by John Simpson offering an overview of the situation. It was clear from this and the resultant discussions that events still unfolding, such as South Africa's accession to the Treaty, the existence of two claimants to represent Cambodia and the possibility of agreeing a mandate for discussions of a CTBT in the CD were going to have a significant, but not determining effect, upon the outcome of the conference.

  The Core Group also discussed two presentations on functional issues: 'Amending the NPT System' by Gordon Thompson and 'Nuclear Supply and changes in East and West Europe' by Lewis Dunn. In the resultant discussions, the conceptual value of attempting to impose a standard framework upon arms control efforts on the basis of non-discrimination was acknowledged, but the practical politics of disarmament agreements were seen to demand a much more pragmatic and flexible approach. The problems posed by changes in Eastern Europe for nuclear supply arrangements were outlined, and some of the consequences of the need to draft new regulatory legislation in the East European democracies and to revised the COCOM controls were explored.

  The Core Group addressed detailed arrangements for the next PPNN Core group meeting, which will be held in Charlottesville, Virginia from 9-11 November 1990.

- PPNN Occasional Paper Six: **Falling into Line? France and the NPT** written by Harald Müller was published and distributed in May. Two further papers are being printed: Occasional Paper Seven — **Argentina and Brazil: An Evolving Nuclear Relationship** by John Redick and Occasional Paper Eight — **The Need for a Strong Nuclear Non-Proliferation Treaty: Issues at the Fourth NPT Review Conference** by John Simpson and Darryl Howlett. These will be published and distributed at the end of July.

- PPNN is currently preparing a **Briefing Book** for diplomats and officials attending the NPT review conference in August. This will comprise two volumes, the first outlining the issues at the conference with annexes providing background information on them and the second containing relevant treaties and agreements. PPNN intends to distribute a single copy of this book to each delegation attending the conference. Delegations may obtain additional copies by writing to John Simpson at PPNN's Southampton office.

- John Simpson visited Athens on 18th May 1990 as part of Harald Müller's PRIF team providing briefings to Greek officials on non-proliferation questions (see below). He lectured to officials and members of the national PPNN group in the Foreign Ministry of the German Democratic Republic on 28th May on issues likely to arise at the NPT review conference. From 29 May-2 June 1990, together with two other members of the PPNN Core group, Lewis Dunn and Harald Müller, he made a presentation and participated in a conference on 'New Threats to Global Security: Proliferation of Nuclear, Chemical and Biological Weapons', held at the Wiston Park Conference Centre in the United Kingdom.

- Ben Sanders attended the meeting of the PPNN national group in London on 29th June 1990 (see below), and made a presentation on a Middle East Nuclear Free Zone.

- Members of the PPNN Core Group have contributed several articles to the July/August 1990 edition of The Bulletin of the Atomic Scientists, which focuses on 'Nuclear Haves vs. Have-Nots: Non-Proliferation Treaty on the Line.' These include 'Non-Proliferation Treaty: a broken record?' by Ben Sanders; 'It ain't broke—don't fix it' by Lewis A. Dunn; 'Eastern Europe after Pax Sovietica' by David A.V. Fischer; 'Western Europe needs treaty' by Harald Müller; 'Disappointment in the Third World' by Jayantha Dhanapala; and 'Nonproliferation agenda beyond 1990' by John Simpson.

III. OTHER NON-GOVERNMENTAL GROUPS ACTIVE IN RELATED AREAS

- The fifth meeting of **UK Officials and Academics**, sponsored by the British members of the PPNN Core Group and the Non-Proliferation Department of the Foreign and Commonwealth Office, took place in London on 29th June 1990. Among the subjects discussed were the third meeting of the NPT preparatory committee, the problems of compliance with the Treaty, the concept of a Middle East Nuclear Weapon Free Zone and the main issues likely to dominate the 1990 NPT review conference.

- Those members of the PPNN Core Group resident in Britain combined with the UK **Council for Arms Control** to mount a seminar on 'The Nuclear Non-Proliferation Treaty: Major Issues at the 1990 Review Conference' at the Royal Institute for International Affairs, Chatham House, London on 10 July 1990.

- From 20-21 June 1990, the **Groupe de Bellerive** held a coloquium on 'Non-Proliferation in a Disarming World: Prospects for the 1990's'. PPNN actively participated in this event, and presentations and contributions were made to it by several members of the Core Group, including Jayantha Dhanapala, David Fischer, Josef Goldblat, Walter Rehak, Ben Sanders and John Simpson.

- The **Peace Research Institute, Frankfurt's** project on **Western European Non-Proliferation Policy**, directed by Harald Müller, organised a further briefing on nuclear non-proliferation in Athens on 18th May 1990. This was in the form of a workshop on 'Greece and Nuclear Non-Proliferation Policy' sponsored jointly with the Greek Institute for International and Strategic Studies.

- The **German Society for Foreign Affairs (DGAP)** in Bonn, in collaboration with the **Nuclear Research Center Jülich (KFA)**, has convened a working group to discuss non-proliferation issues of current as well as long-term importance. The group, which comprises some 40 senior officials and experts from government and politics, industry, academia, and the media, is headed jointly by Professors Karl Kaiser (DGAP) and Wolf Hfele (KFA). It is scheduled to meet three or four sessions per year, starting in 1990, to review developments related to German as well as general non-proliferation policy. Previous sessions have discussed nuclear export policy, safeguards, and the state of the non-proliferation regime, and prospects for the 1990 NPT Review Conference. The group continues the work of a similar body that met from the mid-seventies to the mid-eighties and which resulted, inter alia, in the production of several books on non-proliferation problems. Contact Address: Forschungsinstitut der Deutschen Gesellschaft für Auswrtige Politik e.V., Adenauerallee 131, Postfach 1425, D-5300 Bonn 1, Germany. Tel. 0228/2675-150, Fax 0228/2675-173.

- The **Center for Applied Studies in International Negotiations (Geneva)** and the **International Dialogue Association (Moscow)** jointly organised a simulation exercise of the fourth NPT review conference between June 29th and July 1st 1990. The exercise took place in Geneva and was organised by Ambassador Victor Issraelyan (USSR), Professor William C. Potter (USA) and Professors Robert Weibel and Jean Freymond (Switzerland). It was attended by eighteen students and diplomats from missions in Geneva, many of the latter being scheduled to form part of their countries delegation to the NPT review conference.

- The **International Peace Research Institute, Oslo (PRIO)**, headed by Sverre Lodgaard, recently published a book by a member of the PPNN Core group, Josef Goldblat, assessing the record of the NPT and suggesting methods of strengthening the regime. Copies of **Twenty Years of the Non-Proliferation Treaty: Implementation and Prospects** can be obtained from the Director, PRIO, Fuglehauggt 11, N-0260, Oslo 2, Norway; Telephone (+472) 55 71 50; Telefax (+472) 55 84 22.

- The **Stockholm International Peace Research Institute** published a research report at the end of April entitled 'The Non-Proliferation Treaty: Political and Technological Prospects and Dangers in 1990'. The report was compiled by Harald Müller (a member of the PPNN Core Group), and Richard Kokoski. Copies can be obtained from SIPRI, Pipers vg 28, S-171 73 Solna, Sweden; Telephone 46 8/55 97 00, Telefax 46 8/55 97 33.

- Leonard S. Spector is organising a second conference on 'Nuclear Non-Proliferation: The Role of Private Organisations' on behalf of the **Carnegie Endowment for International Peace** in Washington from 13-14 November 1990.

[Due to space constraints, the special supplement giving details of non-governmental groups working in the non-proliferation area has been held over to a future edition.]

IV. SOME RECENT BOOKS, ARTICLES AND OTHER MATERIALS ON NUCLEAR NON-PROLIFERATION

Books:

Aspen Strategy Group, **New Threats, Responding to the Proliferation of Nuclear, Chemical, and Delivery Capabilities in the Third World: An Aspen Strategy Group Report**, (University Press of America, Lanham, Maryland, 1990)

Mark Hoffman (editor), **UK arms control in the 1990s**, (Manchester University Press, 1990) 221 pp.

Darryl Howlett, **EURATOM and Nuclear Safeguards**, (Macmillan Press, Basingstoke and London, 1990) 272 pp. [published in the US by St. Martin's Press, New York]

Harald Müller and Richard Kokoski, **The Non-Proliferation Treaty: Political and Technological Prospects and Dangers in 1990**, (Stockholm International Peace Research Institute, 1990) 138 pp.

Nuclear Energy Agency, **Uranium Resources, Production and Demand**, (NEA-OECD Paris, 1990) 358 pp.

Uranium Institute, **Uranium and Nuclear Energy: 1989**, (Uranium Institute, London: 1990) 429 pp.

Articles and other materials:

Adolf von Baeckmann, 'Modern fuel cell technologies and IAEA safeguards', **IAEA Bulletin**, Vol. 32, No. 1, 1990, pp. 11-15.

Warren Donnelly, **The Nuclear Non-Proliferation Treaty: Upcoming International Review**, CRS Issue Brief, IB90092, Library of Congress, Washington, July 1990.

External Affairs and International Trade, Canada, 'Canada and International Safeguards: Verifying Nuclear Non-Proliferation', **Verification Brochure No.5**, 1990.

Jozef Goldblat, 'Banning Nuclear Tests: Can a CTBT be Achieved?', **Council for Arms Control Bulletin**, No. 49, May 1990, pp. 1-2,8.

Jozef Goldblat, 'Mise en oeuvre et avenir du Traité de non-prolifération nucléaire', **Memento Defense-Desarmement 1990**, (GRIP, Brussels, 1990), pp.47-51.

Jozef Goldblat, 'Les vingt ans du traité de non-prolifération nucléaire: mise en oeuvre et perspectives', **Dossier "notes et documents"**, No. 141-142, January-February 1990, 71 pp. [Published by GRIP, Brussels]

International Atomic Energy Agency, 'International Safeguards in the Context of Non-Proliferation', **IAEA News Features**, No. 7, April 1990, 4 pp.

Jon Jennekens, 'IAEA safeguards: A look at 1970-1990 and future prospects', **IAEA Bulletin**, Vol. 32, No. 1, 1990, pp. 5-10.

Harald Müller, 'After the Scandals: West German Non-Proliferation Policy', **PRIF Report No. 9**, Feb 1990, Peace Research Institue, Frankfurt.

Janne E. Nolan, 'Missile Mania, Some Rules for the Game', **The Bulletin of the Atomic Scientists**, Vol. 46, No. 4, May 1990, pp. 27-29.

Joseph S. Nye, 'Arms Control After the Cold War', **Foreign Affairs**, Winter 1989/90, pp. 42-64.

John Simpson and Darryl Howlett, 'The 1990 NPT Review Conference', **Survival**, Vol. XXXII, No. 4 July/August 1990, pp. 349-60.

V. Comments from Readers

Following Prof. Marvin M. Miller's letter in **Newsbrief** No. 9 concerning certain statements in PPNN Occasional Paper Four: **New Technology, the NPT and the IAEA Safeguards System**, the Editor has received the following response from Dennis Fakley, the author of the paper:

Professor Miller provides a useful amplification of my brief summary of the possibilities of new isotope separation technologies for would-be nuclear weapon proliferators. Of course I agree that, at the present time, laser isotope separation is a far more demanding technology than that for separation by gaseous centrifuges but it would be foolish to ignore the potential of the former when formulating non-proliferation policies.

In my opinion, Professor Miller unfairly attacks the integrity of current weapon designers when he assigns a 'stand where you sit' basis for their assessment that nuclear tests are still essential for maintaining weapon stockpile serviceability. In my experience, weapon designers are intrigued by the problems that require solutions before they could support a discontinuation of nuclear tests; and, in no sense, have I detected vested interests in their present assessment. In any case, underground nuclear testing is a costly element in a nuclear weapons programme and, if it could be avoided, the effort that would be released could usefully be put to the other uses in the weapon laboratories. There would certainly be no reduction in the requirement for warhead designers and the technical challenges they would face would be at least as stimulating and demanding as at present. It is not without significance that those who claim testing to be unnecessary do not carry responsibility for certifying stockpile serviceability. Such responsibility concentrates the mind wonderfully.

Dr Harald Müller has submitted for publication the following comments on two articles by Professor Gary Milhollin in the International Herald Tribune of 15 and 16/17 June critical of the efforts of the Federal Repubic of Germany in the field of nuclear and missile export controls.

Professor Millhollin remains silent in his articles on the considerable efforts of the German government to reform export law, regulation, and administration in order to prevent a repetition of past events. In 1989, regulations were enacted to subject transit trade by German firms abroad to licensing requirements. The interministerial process of licensing was strengthened in order to give the Foreign Office more weight. Legislation which has recently passed the Bundestag increases the sentances that can be passed on lawbreakers, applies not only to conscious acts of lawbreaking but also to acts of ommission. The legislation applies to any act of assistance in the production of weapons of mass destruction, and applies to German citizens participating in such endeavours abroad. This is a most unusual clause, fairly unique in German law, and a development which should prove the seriousness with which the issue is now being addressed after many years of carelessness and neglect. Moreover, German export control, customs, and investigative offices received the rescources to hire 200 new staff in the budgetary amendment of 1989 and 1990, contrasting sharply with the general trend of reducing government staff.

Professor Milhollin also asks in his articles for the German government to apply pressure to Pakistan and India to stop making the bomb. He should be well aware — since it was reported in the public domain — that Chancellor Kohl denied the late Pakistani President Zia ul-Haq the supply of a much sought-after power reactor in 1986 unless Pakistan accepted full-scope IAEA safeguards on its nuclear program. German firms will not participate in the French-Pakistani reactor deal should it every be realized, and the government of the Federal Republic has made it clear at the highest level to India as well as to Pakistan that it views the nuclear situation in South Asia with grave concern, and supports initiatives towards the threshold countries being taken within the European Political Cooperation. Beyond that, it is hard to see what the government of the Federal Republic — or of a future united Germany — could do. For it would remain a middle power, embedded in the European community. It could not send aircraft carriers to the Bay of Bengal, nor dispose of multi-billion dollar military aid programs in the region which it could use as leverage in order to support non-proliferation policy.

VI. DOCUMENTATION

Declaration on Nuclear Non-proliferation by The European Council (issued 26 June 1990 in Dublin)

The European Council strongly supports and is fully com-mitted to the objective of nuclear non-proliferation. It believes that the further spread of nuclear weapons or other nuclear explosive devices would endanger stability and threaten regional and global security. The European Council attaches the greatest importance to the maintenance of an effective international nuclear non-proliferation regime and will make every effort to contribute to strengthening non-proliferation and encouraging the participation of further countries in the regime. The Treaty on the Non-Proliferation of Nuclear Weapons (NPT) is an important element in that regime. The Twelve Member States of the European Community, parties to the NPT or not, will work actively to secure a successful outcome to the discussions which will take place in the forthcoming months, and in particular the deliberations of the Fourth Review conference of the NPT, and hope that those discussions will provide stable and assured solutions to the problems encountered by the international community in preventing the spread of nuclear weapons. The European Council expresses its concern that there is a continuing risk that further countries may acquire nuclear weapons and that a number of countries remain outside the non-proliferation regime. It calls on all states to join in efforts to eliminate the risk of nuclear proliferation.

The European Council recognises the indispensable role played by the IAEA and its safeguards in the development of the peaceful uses of nuclear energy. It recognises that these safeguards are the cornerstone of an effective non-proliferation regime. The European Council reaffirms the need for the peaceful application of nuclear energy to take place under credible, effective and efficient international safeguards. In this connection, it recalls the important contribution of Euratom safeguards. For their part, the Twelve Member States of the Community have accepted, in accordance with their respective individual status, the exercise of international controls on their nuclear installations and apply constraints to their export policies. The European Council strongly supports the application of safeguards on as universal a basis as possible. It calls on other States to subscribe to similar commitments.

The European Council believes in the need for an equitable and stable framework for international nuclear trade. The Twelve Member States of the European Community have collectively adhered to the Nuclear Suppliers Group Guidelines, thereby assuming a basic common discipline for their nuclear exports. The European Council expresses the hope tat other countries will conduct their nuclear export policies on a similar basis. Within the framework of guidelines for nuclear trade, the European Council wishes to cooperate with all countries. While maintaining and further developing the existing non-proliferation regime, the European Council will work to uphold the right of all countries to the development of research, production and use of nuclear energy for peaceful purposes.

In a context where several countries in various regions of the world perceive an increasing role for nuclear energy, the European Council believes that the development of the peaceful uses of nuclear energy should be inseparable from necessary action to eliminate the risk of proliferation of nuclear arms, and should be accompanied by the utmost attention to safety. In that regard the Twelve Member States of the European community have proposed that the IAEA convene a Technical Conference in 1991, to review the situation in the field of nuclear safety as well as to formulate recommendations on further measures for improving safety in order to supplement existing measures in this field.

The European Council reaffirms once again its support for the objective of the non-proliferation of nuclear weapons and will continue to work in a spirit of dialogue and co-operation in order to enlarge the international consensus in favour of an effective non-proliferation regime.

The Programme for Promoting Nuclear Non-Proliferation and the Newsbrief

The Programme for Promoting Nuclear Non- Proliferation was established in the Spring of 1987 with the ultimate purpose of helping to strengthen the nuclear non-proliferation regime and with the shorter-term goal of contributing to the success of the fourth review conference of the Non-Proliferation Treaty and of the 1995 conference that will decide on the Treaty's extension. The Programme provides for the creation of an international, non-governmental and informal system of collecting, exchanging and analysing relevant information which should be brought to the attention of government officials, diplomats, the research community, parliamentarians, non-governmental organisations and the media, so as to help foster among those groups, a greater interest in, and a deeper knowledge of, the issues involved.

The central element of the Programme for Promoting Nuclear Non-Proliferation is an international networking exercise based on a Core Group of high-level experts from eleven industrialized and developing nations. These experts give general guidance to the Programme, pool and exchange information on the many different aspects of the question of nuclear (non-)proliferation and make the respective communities of which they form part aware of the need to support the non-proliferation regime and the Treaty. The Core Group customarily meets twice a year.

The **Newsbrief** was initially conceived as a means of communication from the chairman of the Core Group of the Programme for Promoting Nuclear Non-Proliferation to the members, to acquaint them with developments relevant to the aims and activities of the Programme. Given its general nature, however, the **Newsbrief** has become part of the outreach effort which constitutes a major element of the Programme. It is therefore now addressed to a wider, though still limited, audience of persons not directly involved with PPNN but interested in the subject, to inform and help them alert their respective environments to the issue of nuclear non-proliferation.

The **Newsbrief** is published on behalf of the Programme for Promoting Nuclear Non-Proliferation by the Centre for International Policy Studies, Department of Politics, University of Southampton. Communications relating to its content and other editorial matters should be addressed to Ben Sanders at 240 East 27th Street, New York, New York 10016, USA. Those relating to production and distribution should be addressed to John Simpson, Department of Politics University of Southampton, Southampton, SO9 5NH, United Kingdom.

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