

NUCLEAR-RELATED TRADE AND COOPERATION DEVELOPMENTS, FEBRUARY 1994-MAY 1994

EMERGING NUCLEAR SUPPLIER STATES

ARGENTINA

INTERNAL DEVELOPMENTS

2/24/94

It is reported that Argentina's spent fuel storage capacity for its three nuclear power plants will be exhausted early in the next century. The most likely candidate for hosting a new waste storage facility is the town of Gastre, located 900 miles south of Buenos Aires in Chubut Province.

Nathaniel C. Nash, *New York Times*, 2/24/94, p. A6 (10663).

The numbers listed in parenthesis following the bibliographic references refer to the identification number of the document in the Emerging Nuclear Suppliers Project Database, from which the news summaries are abstracted. Because of the rapidly changing nature of the subject matter, The Nonproliferation Review is unable to guarantee that the information reported herein is complete or accurate, and disclaims liability to any party for any loss or damage caused by errors or omissions.

ARGENTINA WITH ABACC, BRAZIL, AND IAEA

2/9/94

Brazil's Senate ratifies the Quadripartite Agreement between Argentina, Brazil, the Brazilian-Argentine Agency for Accounting and Control of Nuclear Material (ABACC), and the IAEA. Argentina subsequently states that it is pleased with the ratification.

Armin Schmid, *Nucleonics Week*, 2/17/94, p. 16 (10788).

3/4/94

The Quadripartite Agreement between Argentina, Brazil, the Brazilian-Argentine Agency for Accounting and Control of Nuclear Material (ABACC), and the IAEA enters into force.

International Atomic Energy Agency, Press Release (PR 94/11), 4/8/94 (11138).

Late 3/94

Argentina, Brazil, the Brazilian-Argentine Agency for Accounting and Control of Nuclear Material (ABACC), and the IAEA discuss "the format, scope, and verification" of the Initial Reports on Nuclear Materials to be submitted to the ABACC by Argentina and Brazil under the terms of the Quadripartite Agreement. ABACC is now supposed to submit an initial report listing all of the nuclear materials subject to safeguards under the Agreement to the IAEA, which is expected to begin inspections by mid-1994 to verify the correctness of the report.

International Atomic Energy Agency, Press Release (PR 94/11), 4/8/94 (11138). ABACC, 1/94-4/94 (11138).

ARGENTINA WITH BRAZIL

2/17/94

It is reported that Argentina's Conuar, which produces nuclear fuel elements, has supplied Brazil's Angra nuclear power plant.

Comision Nacional de Energia Atomica (Argentina); in *ENS NucNet*, 2/17/94 (11137).

2/27/94

It is reported that Brazil will make a profit of \$1.4 billion in 1994 by using equipment and personnel at the Angra-2 nuclear power plant to train Argentine, Spanish, French, and German technicians. The cost of the training will be \$30,000 for each person per week.

Folha de Sao Paulo, 2/27/94, p. 2; in JPRS-TND-94-007, 3/23/94, p. 4 (11045).

ARGENTINA WITH CANADA

3/94

Atomic Energy of Canada Ltd. (AECL) announces that it has signed a "memorandum of agreement" to study the feasibility of using its 450 MW Candu-3 reactor in the Argentine Comision Nacional de Energia Atomica's (CNEA) generating system. The first results of the study are expected in mid-1994.

Ray Silver, *Nucleonics Week*, 3/17/94, p. 11 (10997).

ARGENTINA WITH EGYPT

1993

Argentina's INVAP SE is servicing a turn-key research and radioisotope production reactor worth \$80 million that it has supplied to Egypt.

Comision Nacional de Energia Atomica (Argentina); in *ENS NucNet*, 2/17/94 (11137).

ARGENTINA WITH FRANCE

2/24/94

It is reported that France has expressed interest in storing nuclear waste in Argentina's Patagonia region. Rumors indicate that negotiations between the countries are still taking place, despite assertions by the Argentine government that nuclear waste storage would be for Argentina's waste only.

Nathaniel C. Nash, *New York Times*, 2/24/94, p. A6 (10663).

4/21/94

France and Argentina sign a civilian nuclear cooperation accord which envisages cooperation in the areas of nuclear waste management, public information, and basic research. The agreement is a follow-up to a declaration of intentions signed in 9/92. France and Argentina are also seeking to cooperate on the peaceful uses of nuclear technology in the fields of medicine, environmental protection, and agriculture.

Enerpresse, 4/25/94 (11099). *Frankfurter Allgemeine Zeitung*, 4/23/94 (11099).

ARGENTINA WITH LATIN AMERICAN COUNTRIES

1/18/94

Argentina deposits the instruments of ratification of the Tlatelolco Treaty, along with amendments made in 1990, 1991, and 1992, with the Government of Mexico (the Treaty's depository). Argentina waives the provision for entry into force under the Treaty, thus bringing the Treaty into force immediately and consequently becoming a full member of the Agency for the Prohibition of Nuclear Weapons in Latin America (OPANAL).

ACDA Press Release, 3/1/94 (11056). International Atomic Energy Agency Information Circular, INFCIRC/428, 2/14/94 (11056). *IAEA Newsbriefs*, 2/94-3/94, p. 4 (11056).

ARGENTINA WITH NUCLEAR SUPPLIERS GROUP

4/11/94-4/14/94

The Nuclear Suppliers Group (NSG) invites Argentina to become the group's twenty-eighth member during a plenary meeting held in Madrid, Spain.

Arms Control Today, 5/94, p. 24 (10992).

ARGENTINA WITH UNITED KINGDOM

4/94

Babcock Energy of the U.K. contracts to supply some 5.5 million British pounds worth of "computer-controlled, ultrasonic equipment" for the reactor pressure vessel of Argentina's Atucha-2 nuclear reactor.

Jimmy Burns, *Financial Times*, 5/20/94, p. 6 (11136).

ARGENTINA WITH UNITED NATIONS

3/14/94

In a meeting with Argentine President Carlos Menem, U.N. Secretary General Boutros Boutros-Ghali makes note of Argentina's efforts at ratifying the NPT, but requests that Argentina and Brazil "expedite" their support for the Treaty, according to Argentina's Media Communications Secretary Raul Burzaco. Menem pledges that Argentina and Brazil will hold talks on the issue.

La Prensa (Buenos Aires), 3/15/94, p. 2; in JPRS-TND-94-007, 3/23/94, p. 4 (11109).

ARGENTINA WITH UNITED STATES

5/17/94

A U.S. General Accounting Office (GAO) report ["Export Licensing Procedures for Dual-Use Items Needs to be Strengthened" (GAO-NSIAD-94-119)] reveals that the U.S. approved the sale of nuclear reactor equipment to Argentina at some time since 1988.

R. Jeffrey Smith, *Washington Post*, 5/18/94; in Executive News Service, 5/18/94 (11139).

BRAZIL

INTERNAL DEVELOPMENTS

1/24/94

The Brazilian government is awaiting Congressional approval of a bill (draft bill 2530/92) that would establish import and export controls on dual-use military goods. The bill would prohibit Brazil from re-exporting technologies that it imported from industrialized countries to third countries such as Iraq, North Korea, and Libya.

Maria Helena Tachinardi, *Gazeta Mercantil* (Sao Paulo), 1/24/94, p. 9; in JPRS-TND-94-004, 2/11/94, pp. 8-9 (11040).

2/11/94

Admiral Mario Cesar Flores, the head of Brazil's Strategic Affairs Secretariat (SAE), signs SAE Memo No. 109, which supports privatizing some nuclear processes, such as mining, the manufacture of concentrates, trade, electrical energy production, and nuclear fuel production.

Mario Chimanovitch, *Istoe* (Sao Paulo), 3/16/94, p. 25; in JPRS-TND-94-008, 4/1/94, p. 27 (10996).

3/19/94

It is reported that Brazilian Nuclear Industry, the holding company which owns Nuclei, will seek some return on the nearly \$500 million invested in Nuclei's unfinished industrial facilities in Resende (Rio de Janeiro state) which are part of the cancelled project to enrich uranium using German jet nozzle technology. The company plans to use some of the Resende equipment to transform "imported enriched uranium into powder and then into pellets," which will in turn be fabricated into fuel elements. A further investment of \$15 million will be needed to adapt the Nuclei facilities for this purpose. An earlier proposal to use the Nuclei facilities in the Brazilian Navy's Aramar submarine project was shelved because the sub-

marine only needs 1,000 units of enriched uranium a year, whereas Nuclei's design was for the production of 160,000 units a year, intended for the Angra-2 and -3 nuclear reactors. Brazil's Navy had developed ultracentrifuge uranium enrichment technology in order to produce fuel for the nuclear submarine it is currently building under the Aramar project.

George Vidor, *O Globo* (Rio de Janeiro), 3/19/94, p. 18; in JPRS-TND-94-007, 3/23/94, p. 4 (10995).

4/19/94

It is reported that Brazil is developing the highly-advanced "atomic process" of uranium enrichment [Atomic Vapor Laser Isotope Separation, or AVLIS], which concentrates uranium-235 by "separating isotopes with laser beams via atomic vapor." Colonel Hugo Pereira Chaves, the director of the Institute of Advanced Studies (IEAv) at the Aerospace Technical Center (Centro Tecnico Aeroespacial [CTA]) reports that the IEAv "has attained a level of 50% uranium enrichment during the process of exciting the 235 molecules," although extraction at this level has remained impracticable. Pereira Chaves also indicates that satisfactory development of the project would require funding of some \$1.5 to \$2 million per year, which far exceeds the \$1 million per year allotted since 1991. The IEAv has also researched the "molecular method" of uranium enrichment [Molecular Laser Isotope Separation, or MLIS]. The "molecular process" is seen as a potential alternative to the currently-used ultracentrifuge method for Brazil's industrial-scale production of uranium-235, in part because the existing Resende facility in Brazil, built by Germany under a 1979 agreement, is capable of supporting the process. Brazil's Navy Ministry runs a research center which concentrates on centrifuge enrichment. Overall, the IEAv has spent \$71 million on laser-related enrichment programs since 1981, with the Aeronautics Ministry providing \$41 million, and the National Nuclear Energy Commission (CNEN), the Funding Authority for Studies and Projects (Finep), and the Strategic Affairs Secretariat supplying the balance.

Virginia Silveira, *Gazeta Mercantil* (Sao Paulo), 4/19/94, p. 14; in JPRS-TND-94-011, 5/16/94, pp. 11-12 (11134).

5/94

The Brazilian government, which is preparing state-owned electricity company Eletrobras for privatization, will split the company into two parts and maintain control of the "problem-ridden nuclear power plants." Details of the privatization of the company, with annual revenues of \$5 billion and assets of \$73 billion, will be announced "in the next few weeks."

Hugh O'Shaughnessy, *Observer*, 5/1/94 (11043).

BRAZIL WITH ABACC, ARGENTINA, AND IAEA

1/13/94

A Brazilian senate commission rejects both the 1991 Quadripartite Agreement (between Brazil, Argentina, the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials [ABACC] and the IAEA) and the proposed amendments to the 1967 Tlatelolco Treaty banning nuclear weapons in Latin America, but it approves the establishment and immunity of the ABACC. Both of the rejected agreements have been approved by the Brazilian House of Representatives. Foreign Minister Celso Amorin says that as a result of the rejection, Brazil will automatically be banned from the 1/94 meeting of the Agency for the Prohibition of Nuclear Weapons in Latin America (OPANAL). Rejection of the safeguards agreement will also preclude Brazil from receiving nuclear equipment from Germany after 1995 because of new German legislation restricting the transfer of nuclear technologies to countries that have not signed IAEA safeguards agreements.

Nuclear Engineering International, 2/94, p. 3 (11049).

2/9/94

Brazil's Senate ratifies the Quadripartite Agreement signed in 12/91 between Argentina, the IAEA and the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials (ABACC). The agreement allows inspections of Brazilian nuclear facilities by the IAEA. The Senate's ratification of the agreement removes a point of contention between Brazil and Germany over nuclear cooperation.

Wall Street Journal, 2/10/94, p. A15 (10258). Reuter, 2/9/94; in Executive News Service, 2/9/94 (11039).

2/25/94

Brazilian President Itamar Franco signs a decree implementing the Quadripartite Agreement signed in 12/91 between Brazil, Argentina, the IAEA, and the Brazilian-Argentine Agency for the Accounting and Control of Nuclear Material (ABACC). As requested by Brazilian Senator Dirceu Carneiro, the decree stipulates that changes to the subsidiary agreements and acts modifying the initial agreement or burdening the Brazilian economy are "subject to the approval of the national Congress."

Mario Helena, *Gazeta Mercantil* (Sao Paulo), 3/2/94, p. 16; in JPRS-TND-94-007, 3/23/94, p. 4 (10994).

3/4/94

The Quadripartite Agreement between Brazil, Argentina, the Brazilian-Argentine Agency for Accounting and Control of Nuclear Material (ABACC), and the IAEA enters into force.

International Atomic Energy Agency, Press Release (PR 94/11), 4/8/94 (11138).

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Brazil, Argentina, the Brazilian-Argentine Agency for Accounting and Control of Nuclear Material (ABACC), and the IAEA discuss "the format, scope, and verification" of the Initial Reports on Nuclear Materials to be submitted to the ABACC by Brazil and Argentina under the terms of the Quadripartite Agreement. ABACC is now supposed to submit an initial report listing all of the nuclear materials subject to safeguards under the Agreement to the IAEA, which is expected to begin inspections by mid-1994 to verify the correctness of the report.

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BRAZIL WITH ARGENTINA

2/17/94

It is reported that Argentina's Conuar, which produces nuclear fuel elements, has supplied Brazil's Angra nuclear power plant.

Comision Nacional de Energia Atomica (Argentina); in *ENS NucNet*, 2/17/94 (11137).

2/27/94

It is reported that Brazil will make a profit of \$1.4 billion in 1994 by using equipment and personnel at the Angra-2 nuclear power plant to train Argentine, Spanish, French, and German technicians, at a cost of \$30,000 per person per week.

Folha de Sao Paulo, 2/27/94, p. 2; in JPRS-TND-94-007, 3/23/94, p. 4 (11045).

BRAZIL WITH FRANCE

2/27/94

It is reported that Brazil will make a profit of \$1.4 billion in 1994 by using equipment and personnel at the Angra-2 nuclear power plant to train Argentine, Spanish, French, and German technicians. The cost of the training will be \$30,000 per person per week.

Folha de Sao Paulo, 2/27/94, p. 2; in JPRS-TND-94-007, 3/23/94, p. 4 (11045).

BRAZIL WITH GERMANY

Late 1993

Germany's Siemens designs new spacers for Brazil's Angra-1 reactor and delivers them to Brazil's Industrias Nucleares do Brasil (INB).

Nuclear Engineering International, 5/94, p. 8 (11017).

2/7/94

It is reported that Germany may rescind its nuclear agreement with Brazil and halt all high technology exports to Brazil if Brazil does not ratify the Tlatelolco Treaty or the Quadripartite Agreement between Brazil, Argentina, the IAEA, and the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials (ABACC). The Brazilian-German nuclear agreement of 1976, scheduled to be automatically renewed for five more years at the end of 1994, may be rescinded in keeping with a German law prohibiting nuclear cooperation with a country which has not signed the Non-Proliferation Treaty (NPT) or submitted to another international nuclear control regime. The

German government indicates that ratification of the treaties in question by the Brazilian Senate would lead Germany "to consider building a nuclear powered submarine" for Brazil's Navy. Germany has proposed to extend additional credit for Brazil's Angra-2 plant, but it is unclear if the project will actually be completed.

William Waack, *O Estado de Sao Paulo*, 2/7/94, p. A8; in JPRS-TND-94-005, 2/25/94, pp. 55-56 (11133). *Nuclear Engineering International*, 2/94, pp. 2-3 (11047). *Nuclear Engineering International*, 2/94, p. 3 (11049).

2/27/94

It is reported that Brazil will make a profit of \$1.4 billion in 1994 by using equipment and personnel at the Angra-2 nuclear power plant to train Argentine, Spanish, French, and German technicians. The cost of the training will be \$30,000 for each person per week.

Folha de Sao Paulo, 2/27/94, p. 2; in JPRS-TND-94-007, 3/23/94, p. 4 (11045).

3/19/94

It is reported that Brazil's Nuclei will not proceed with a uranium enrichment project which uses a German-developed jet nozzle process. Under the project, Nuclei had invested almost \$500 million in its unfinished industrial facilities in Resende, which were designed for the production of 160,000 units of enriched uranium per year for the Angra-2 and -3 reactors.

George Vidor, *O Globo* (Rio de Janeiro), 3/19/94, p. 18; in JPRS-TND-94-007, 3/23/94, p. 4 (10995).

BRAZIL WITH IAEA AND UNITED NATIONS

4/7/94

Ayrton Cauby, the Licensing and Control superintendent of Brazil's National Nuclear Energy Commission (CNEN), confirms that the CNEN has requested \$500,000 from the U.N. to build an underground nuclear waste storage silo for the Angra-1 reactor. The CNEN has also requested financing from the IAEA, which has released \$100,000 for preliminary work on the storage silo to be conducted during 1994-1995. In 5/94, IAEA experts will aid Brazil in selecting the site for the waste storage silo.

O Estado de Sao Paulo, 4/8/94, p. A12; in JPRS-TND-94-010, 5/5/94, p. 9 (11046).

BRAZIL WITH IRAQ

11/1/93-11/15/93

The IAEA's twenty-second nuclear inspection team conducts "detailed microscopic examinations" of nuclear material in Iraq that is believed to be of Brazilian origin. An UNSCOM report states that, "further corroboration will be sought with the assistance of the Brazilian government," regarding these materials.

Philip Finnegan and Theresa Hitchens, *Defense News*, 2/28/94-3/6/94, p. 6 (11012).

BRAZIL WITH SPAIN

2/27/94

It is reported that Brazil will make a profit of \$1.4 billion in 1994 by using equipment and personnel at the Angra-2 nuclear power plant to train Argentine, Spanish, French, and German technicians. The cost of the training will be \$30,000 for each person per week.

Folha de Sao Paulo, 2/27/94, p. 2; in JPRS-TND-94-007, 3/23/94, p. 4 (11045).

BRAZIL WITH UNITED NATIONS

3/14/94

In a meeting with Argentine President Carlos Menem, U.N. Secretary General Boutros Boutros-Ghali requests that Argentina and Brazil "expedite" their support for the NPT. Menem pledges that Argentina and Brazil will hold talks on the issue.

La Prensa (Buenos Aires), 3/15/94, p. 2; in JPRS-TND-94-007, 3/23/94, p. 4 (11109).

BRAZIL WITH UNITED STATES

6/25/93

The U.S. Department of Energy approves the provision of nuclear power reactor fuel management computer codes, support information, and related training by Westinghouse to Brazil's Furnas Centrais Electricas S.A. for use at the Angra-1

nuclear reactor. The U.S. requires assurances from Brazil that it will not use the technology for military or reactor design purposes, and that it will not retransfer the technology to a third country without U.S. approval.

NuclearFuel, 2/28/94, p. 16 (11042).

5/17/94

A U.S. General Accounting Office (GAO) report ["Export Licensing Procedures for Dual-Use Items Needs to be Strengthened" (GAO-NSIAD-94-119)] reveals that the U.S. licensed the supply of a particle accelerator to Brazil at some time since 1988.

R. Jeffrey Smith, *Washington Post*, 5/18/94; in Executive News Service, 5/18/94 (11139). Vincent Kiernan, *New Scientist*, 5/28/94 (11139).

BRAZIL WITH UNITED STATES AND CANADA

4/24/94

Admiral Mario Cesar Flores, the head of Brazil's Strategic Affairs Secretariat (SAE), rejects criticisms levelled by members of Brazil's nuclear establishment regarding Nuclear Industries of Brazil's (INB) \$1.7 million "sale" of enriched uranium to U.S.-based Nuexco for final delivery to Canada. INB President Roberto Franca indicates that, by the terms of the agreement, "INB rented out the fuel [yellowcake and enriched uranium] for periods ranging from six to eighteen months," with return shipments beginning in 8/94.

O Globo (Rio de Janeiro), 4/25/94, p. 4; in JPRS-TND-94-011, 5/16/94, p. 11 (11048). *Istoe* (Sao Paulo), 4/27/94, p. 16; in JPRS-TND-94-011, 5/16/94, p. 11 (11048).

BRAZIL WITH URENCO

1993

Brazil's Furnas Electric Power Plants, Inc. purchases \$20 million worth of enriched uranium fuel for the Angra-1 nuclear plant from Urenco, the German British, and Dutch consortium.

Tania Malherios, *O Estado de Sao Paulo*, 4/7/94, p. A16; in JPRS-TND-94-010, 5/5/94, p. 9 (11046).

INDIA

INTERNAL DEVELOPMENTS

1/20/94

The managing director of India's Nuclear Power Corporation, S.K. Chatterjee, says that in 2/94, the Tarapur Atomic Power Station (TAPS) will gradually start using an indigenously developed mix of low-enriched uranium and mixed oxide (MOX) fuel as a first step toward achieving independence from imported enriched uranium for power generation. Chatterjee says that India will have "no fuel problem till the end of 2000 A.D." Nevertheless, Chatterjee states that India is still interested in buying enriched uranium "from whosoever [is] willing to give it to us," although "enriched uranium or no enriched uranium, we have to, and will run TAPS and have uninterrupted power generation."

United News of India, in *Patriot* (Delhi), 1/22/94, p.5; in JPRS-TND-94-005, 2/25/94, p. 15 (11128).

2/13/94

It is reported that to date, India's nuclear fuel complex, based in Hyderabad, has produced a total of 100,000 nuclear fuel rods. According to the report, the rods are "made from uranium oxide, a zirconium alloy" for use in pressurized heavy water reactors. India is thus the fourth country to have achieved self-sufficiency in this capability. India currently produces 1,200 fuel rods per month, but production is soon expected to reach 1,500 per month. India's seven operating nuclear reactors use 2,000 fuel rods each per year.

Sanjiv Thomas, Doordarshan Television Network (Delhi), 2/13/94; in JPRS-TND-94-006, pp. 22-23 (11122).

INDIA WITH IAEA

2/94

The Tarapur plant is operating under a temporary safeguards agreement due to expire

at the end of 3/94. India's Department of Atomic Energy says that a safeguards agreement on Tarapur is being held up due to U.S. objections to the reprocessing of spent fuel.

Nuclear Engineering International, 2/94, p. 8 (11128).

2/3/94

The IAEA Department of Safeguards predicts that if India and Japan pursue their planned plutonium projects in the 1990s, the percentage of IAEA safeguard inspections which deal with plutonium separation will double. The IAEA has already budgeted 500-600 inspector days for safeguarding India's Prefre reprocessing plant. The Prefre plant is expected to begin reprocessing spent fuel from Tarapur in mid-1994.

Mark Hibbs, *Nucleonics Week*, 2/3/94, p. 14 (11267).

2/16/94

Kamal Bakshi, the Indian Ambassador to U.N. agencies in Vienna, announces that India consents to voluntary safeguards in perpetuity on nuclear material used at the Tarapur Atomic Power Station.

Mark Hibbs, *Nucleonics Week*, 3/10/94, pp. 7-8 (11484).

2/21/94

The IAEA Board of Governors approves a draft agreement presented by Indian authorities in 12/93, thus permanently extending Tarapur Atomic Power Station safeguards.

Mark Hibbs, *Nucleonics Week*, 3/10/94, pp. 7-8 (11484).

3/94

IAEA Assistant Director General for Nuclear Safety Morris Rosen, who recently met with Indian Atomic Energy Regulatory Board (AERB) Chairman A. Gopalakrishnan in India, says he is certain that if the AERB and the Indian government request greater assistance in the area of nuclear safety, the IAEA would grant it.

ENS NucNet, 3/2/94 (11130).

INDIA WITH PAKISTAN, PRC, AND UNITED STATES

2/16/94

Western diplomats announce that delegations from Pakistan and India, headed by former army chiefs, will engage in unofficial discussions the following week in China and that U.S. and Chinese nuclear officials will also be present at the talks. Diplomats say that India is exhibiting a seldom-seen flexibility on the nuclear issue by deciding to participate in the talks.

Jawed Naqvi, *Reuter*, 2/16/94; in *Executive News Service*, 2/16/94 (11090).

INDIA WITH PRC

3/94

Reports indicate that China might sell uranium for use in India's boiling water reactors (BWRs).

Mark Hibbs, *Nucleonics Week*, 3/10/94, pp.7-8, (11484).

INDIA WITH PHILIPPINES

2/26/94

The Philippine Senate approves a treaty with India which calls for "economic and technical cooperation in research and design, delivery and installation of plants, machineries and equipment and technical assistance" in nuclear energy and other areas. Philippine Senator Blas Ople says that Filipino experts and trainees have already begun taking part in research programs in nuclear power generation in India.

Marichu A. Villanueva, *Manila Standard*, 2/27/94, p. 6; in *JPRS-TND-94-007*, 3/23/94, pp. 29-30 (11074).

INDIA WITH RUSSIA

3/29/94

India's Nuclear Power Corporation (NPC) Managing Director S.K. Chatterjee says that India is again considering a plan to construct a nuclear power plant consisting of two Russian-supplied VVER-1000 units at Koodankulam in Tamil Nadu. In 11/88, the USSR had signed a contract to supply

the units to India through the Soviet vendor Atomenergoexport with funding from the Soviet government, but the subsequent dissolution of the USSR effectively rendered the contract null and void. After the final meeting with Russia, scheduled for 6/94, India will decide whether to import the Russian reactors or to install indigenously-produced PHWRs at the site.

Nuclear Engineering International, 5/94, pp. 8-9 (11119).

INDIA WITH SOUTH KOREA

4/8/94

Additional Secretary of India's Department of Atomic Energy (DAE) P.R. Prabhakara signs a contract with South Korea's Korean Electric Power Company (KEPCO) Vice President Sohn Bong-up for India to supply South Korea with 100 tons of heavy water for \$23 million. According to the DAE, the IAEA approved of the deal, which is India's first major commercial export of strategic nuclear material.

Press Trust of India; in *India Express*, 4/9/94 (11078).

INDIA WITH THAILAND

12/15/93

An official with the Indian Prime Minister's Office, Bhuvnesh Chaturvedi, tells the All India Radio Network that "India has offered for export a nuclear research reactor of advanced design to Thailand." Chaturvedi adds that the reactor will be fueled only with uranium, rather than uranium and thorium, and will be used for basic and applied research and for making radioisotopes.

Security Affairs, 4/94-5/94, p. 3 (11034).

INDIA WITH TURKEY

5/13/94

It is reported that the 18 bidders for Turkey's first nuclear power plant include the Nuclear Power Corporation of India, Bechtel Power and Southern Electric of the U.S., Belgatom of Belgium, and a partnership of Korea Atomic Energy Research Institute and Hyundai Engineering of South Korea.

Financial Times, 5/13/94 (11112).

INDIA WITH UNITED STATES

2/24/94

The U.S. loosens export restrictions for computers, which will allow countries on the U.S. Nuclear Nonproliferation Special Country List, including Israel, Algeria, India, Iran, and Iraq, to buy more advanced digital computers, operating up to 500 million theoretical operations per second (MTOPS), from the U.S. The new regulations only require companies to seek "general licenses," which require relatively little bureaucratic involvement, for the sale of such computers.

Asra Q. Nomani, *Wall Street Journal*, 2/25/94, p. A16 (11121). Nancy Dunne, *Financial Times*, 2/25/94, pp. 1, 16 (11121).

3/94

A U.S. official has stated that the U.S. was considering steps to be taken, including a possible freeze on Export/Import Bank loan guarantees, should India proceed with reprocessing without first obtaining U.S. approval. India disagrees with the U.S. position that India must obtain U.S. consent prior to reprocessing spent fuel in India. The U.S. hopes to persuade India to embrace the U.S. sponsored fissile material cut-off initiative.

Mark Hibbs, *Nucleonics Week*, 3/10/94, pp. 7-8 (11484).

3/22/94-3/25/94

U.S. Assistant Secretary of State Robin Raphel travels to India to perform groundwork for Deputy Secretary of State Strobe Talbott's 4/94 visit. Discussion centered on the proposed sale of F-16s to Pakistan.

Harinder Baweja, *India Today*, 4/15/94, pp. 32-36, (11485).

4/6/94-4/8/94

U.S. Deputy Secretary of State Strobe Talbott visits India to hold discussions with Indian officials over the proposed deal to supply 38 F-16 aircraft to Pakistan in exchange for a verifiable cap on Pakistan's nuclear program.

Martin Sieff, *Washington Times*, 4/7/94, p. A12 (11294). K.K. Katyal, *Hindu (International Edition)*, 4/16/94, p. 1 (11288).

5/17/94

During a visit to the U.S., Indian Prime Minister P.V. Narasimha Rao says that the U.S. and India may be able to resolve their differences concerning India's nuclear program in the near future. In another speech to the U.S. Congress, Rao says he supports a global agreement on non-first use of nuclear weapons and the eventual elimination of nuclear weapons and nuclear testing.

Reuter, 5/17/94; in Executive News Service, 5/17/94 (11290). Dilip Bobb, *India Today*, 6/15/94, p. 26-32 (11290).

IRAN

INTERNAL DEVELOPMENTS

2/94

Major General Mohsen Rezaie, the commander of Iran's Islamic Revolution Guards Corps, dismisses an accusation that Iran is trying to obtain nuclear weapons as "just a baseless rumor." Rezaie states that Iran will not allow North Korea or any other country to use Iran as a testing ground for nuclear weapons.

IRNA (Tehran), 2/23/94; in JPRS-TND-94-007, 3/23/94, p. 8 (11011). Reuter, 2/24/94; in Executive News Service, 2/24/94 (11011).

IRAN WITH GERMANY

2/18/94

The German Federal Ministry of Research and Technology (BMFT) issues a report stating that the Physics Research Center (PHRC) at Sharif University is involved in the procurement of "nuclear-related materials." The report adds that the Educational Research Institute (ERI) and the Iranian Research and Development Organization are "wholly or in part devoted to military projects... with the aim of supplying know-how, equipment, and materials." As a result of German intelligence reports in 1992 and 1993, the Ger-

man export control review body, the Bundesamt fuer Wirtschaft (BAW), was instructed to deny all requests by Sharif University to import equipment from Germany.

Mark Hibbs, *NuclearFuel*, 3/28/94, pp. 10-11 (11493).

4/13/94

A source at the uncompleted Iranian Bushehr Nuclear Power Plant reports that 30,000 tonnes of the plant's main parts are being stored in Iran after export from Germany, although another 7,000 tonnes that were reportedly paid for by Iran are being held up because Germany has not issued an export permit.

Jomhuri-Yeeslami (Tehran), 4/13/94, p. 4; in FBIS-NES-94-079, 4/25/94, p. 82 (11003). Mena (Cairo), 4/13/94; in JPRS-TND-94-010, 5/5/94, p. 49 (11152).

IRAN WITH IAEA AND UNITED NATIONS

4/19/94

IAEA Director-General Hans Blix meets with Iranian Foreign Minister 'Ali Akbar Velayati to describe the activities of the IAEA, discuss the possibility of creating a nuclear-weapons-free zone in the Middle East, and praise Tehran's cooperation with IAEA efforts to inspect nuclear facilities.

IRIB Television First Program Network (Tehran), 4/19/94; in JPRS-TND-94-010, 5/5/94, pp. 47-48 (11144).

IRAN WITH NORTH KOREA

2/94

Major General Mohsen Rezaie, the commander of Iran's Islamic Revolution Guards Corps, states that Iran will not allow North Korea or any other country to use Iran as a testing ground for nuclear weapons.

Reuter, 2/24/94; in Executive News Service, 2/24/94 (11011).

Mid-2/94

A North Korean delegation composed of 29 experts in military technology returns from a "long visit" to Iran, during which the experts sign an agreement on military and nuclear cooperation, according to the Arab weekly *Al-Watan Al-'Arabi*. The delegation is led by North Korean Air Force com-

mander Cho Myong-nok. Diplomatic sources believe that the North Koreans visited military and nuclear facilities in Iran.

KBS-1 Radio Network (Seoul), 2/24/94; in JPRS-TND-94-007, 3/23/94, pp. 27-28 (11059). *Washington Times*, 2/25/94 (11059).

IRAN WITH PAKISTAN

4/94

During a visit to Pakistan, Iranian Parliament Speaker Ali Nategh Noori denies Western media reports that he held talks with Pakistani officials concerning cooperation between Iran and Pakistan in the field of nuclear technology. Some U.S. officials claim that Iran is trying to purchase weapons technology from Pakistan.

Nucleonics Week, 4/21/94, pp. 14-15 (11149).

IRAN WITH PRC

3/6/94

Chinese Foreign Minister Qian Qichen, after meeting with President Akbar Hashemi Rafsanjani, Foreign Minister Ali Akbar Velayati, and other Iranian leaders, says that their discussions did not cover China's 1993 agreement to construct a 300 MW nuclear power plant in Iran. Qian added that the agreement "is in the preparatory stage" and that the power plant will be under full IAEA supervision.

Sharif Imam-Jomeh, Reuter, 3/6/94; in Executive News Service, 3/6/94 (11091).

3/20/94

The *China Daily* reports that China is holding discussions regarding a potential deal in which it would supply two 300 MW units to Iran.

Reuter, 3/20/94; in Executive News Service, 3/19/94 (11084).

IRAN WITH PRC AND RUSSIA

2/94

A U.S. Department of Defense official says Iran is currently negotiating with China and Russia for the purchase of commercial nuclear reactors that could be used for military purposes.

Philip Finnegan and Theresa Hitchens, *Defense News*, 2/28/94-3/6/94, p. 6 (11012). Alan Elsner, Reuter, 2/3/94; in Executive News Service, 2/3/94 (11013).

IRAN WITH RUSSIA

2/2/94

A senior Clinton administration official says that Iran's efforts to obtain nuclear technology and materials from the former Soviet Union have been unsuccessful to date.

Alan Elsner, Reuter, 2/3/94; in Executive News Service, 2/3/94 (11013).

3/21/94

Russian experts start work on the first unit of Iran's 1000 MW nuclear plant, according to a source at the plant. Iran signed an agreement with the Russian experts several months ago. The Bushehr Power Plant is scheduled to be finished in four years. According to the report, 85% of the construction and 65% of mechanical and electrical work at Bushehr is complete.

Jomhuri-Ye eslami (Tehran), 4/13/94, p. 4; in FBIS-NES-94-079, 4/25/94, p. 82 (11003). Mena (Cairo), 4/13/94; in JPRS-TND-94-010, 5/5/94, p. 49 (11152).

IRAN WITH SPAIN

2/94

Iran is negotiating with a Spanish company for the supply of nuclear technology and engineering services Iran needs to divert four of its nuclear reactors to military use. Iran is attempting to obtain the Spanish technology through a contract for improvements in safety levels at two reactors under construction in Gargar and two 300 MW Chinese reactors being built in al-Ahvaz. In 1/94 the Iranian Nuclear Energy Commission signed an \$80 million contract with the Spanish company to conduct engineering services on one reactor at al-Ahvaz and to provide similar services at the Bushehr reactor, which Russia has agreed to rebuild. The 1000 MW Bushehr reactor is 80% complete and Iran hopes that the Spanish company will help in its rebuilding before Germany's Siemens terminates its assistance. Iran's interest in obtaining this technology is reflected by the presence of Reza

Amrollahi, assistant to President Rafsanjani for nuclear affairs and chairman of the Iranian Nuclear Energy Commission, and Kazem Rasuli, director of the Nuclear Technological Center in Esfahan (ENTC), at the negotiations. The Spanish delegation is headed by the Spanish company's director general, who was involved with Siemens in constructing the Bushehr reactor. Adolfo Garcia Rodrigues, director of the Spanish nuclear engineering company Empresarios Agrupados, states that he was not aware of Amrollahi's visit in 1/94 and has not met with him for "at least two years." According to Rodrigues, Empresarios Agrupados is in contact with Iran through the IAEA and has conducted damage assessments on the Bushehr reactor. Rodrigues also states that he believes that the sales contract for two 300 MW Chinese reactors have not been signed, but adds that once the reactors are delivered Empresarios Agrupados will work with Iran "either directly or through the agency in Vienna."

Walid Abi-Murshid, *Al-Sharq Al-Awsat* (London), 2/12/94, pp. 1, 4 (11302). *Intelligence Newsletter*, 2/24/94, p. 6 (11302).

2/16/94

Ali Shirzadian, spokesman for the Atomic Energy Organization of Iran (AEOI), denies that there is any nuclear cooperation for military purposes between Iran and Spain.

IRNA (Tehran), 2/16/94; in JPRS-TND-94-006, 3/16/94, p. 57 (11302).

IRAN WITH UNITED KINGDOM

4/94

It is reported that U.K. vice-chancellors rejected a secret government proposal that would exclude students and researchers from countries such as Iran, Iraq, North Korea, China, and Libya from working at British universities in fields of study that could be useful in the development of nuclear weapons.

Ngaio Crequer, *Independent* 4/25/94, (11486).

IRAN WITH UNITED STATES

1/4/94

USA Today reports that U.S. Undersecretary for International Security Lynn Davis stated that Iranian nuclear procurement is "inconsistent with any rational civil nuclear program." The CIA has concluded that Iran's nuclear program is in an "infancy stage" but that Iran could possess nuclear weapons by the year 2000. While the U.S. continues to accuse France and Germany of supplying Iran with technology, a 1993 report by the Subcommittee on International Security of the House Foreign Affairs Committee cited that 52 U.S. companies illegally sold \$748 million in technology and equipment to Iran during 1993, including machine tools, centrifuges, and powerful computers.

Security Affairs, 4/94-5/94, p. 3 (11148).

2/94

Amid concerns that Iran will acquire dual-use technology and use it to develop nuclear weapons, the U.S. is urging other countries not to sell such technology to Iran. U.S. officials say they are concerned that Iran may try to obtain items such as centrifuges and high-speed computers that can aid in the development of nuclear weapons. The U.S. is sharing information with other countries concerning Iran's procurement network. On 2/16/94, CIA spokesman Dave Christian says that according to latest estimates, Iran could develop a nuclear bomb within 6 to 8 years. Christian stated that the Iranian nuclear weapons program is in its early stages and still relies heavily upon foreign technology and expertise. On 2/7/94, U.S. Undersecretary of State for International Security Affairs Lynn Davis says that the U.S. will press the Coordinating Committee for Multilateral Export Controls' successor regime, which will be formed once COCOM is dissolved on 3/31/94, to halt transfers of dual-use and military technology to Iran, Iraq, North Korea, and Libya.

Philip Finnegan and Theresa Hitchens, *Defense News*, 2/28/94-3/6/94, p. 6 (11012). Alan Elsner, Reuter, 2/3/94; in Executive News Service, 2/3/94 (11013).

2/24/94

The U.S. loosens export restrictions for computers, which will allow countries on the U.S. Nuclear Nonproliferation Special Country List, including Israel, Algeria, India, Iran, and Iraq, to buy more advanced digital computers, operating up to 500 million theoretical operations per second (MTOPS), from the U.S. The new regulations only require companies to seek "general licenses," which require relatively little bureaucratic involvement, for the sale of such computers.

Asra Q. Nomani, *Wall Street Journal*, 2/25/94, p. A16 (11121). Nancy Dunne, *Financial Times*, 2/25/94, pp. 1, 16 (11121).

5/17/94

A U.S. General Accounting Office (GAO) report ["Export Licensing Procedures for Dual-Use Items Need to be Strengthened" (GAO-NSIAD-94-119)] says that since 1988, the U.S. has approved 24% of Iranian requests for shipments of nuclear-related material.

R. Jeffrey Smith, *Washington Post*, 5/18/94; in Executive News Service, 5/18/94 (11139). Vincent Kiernan, *New Scientist*, 5/28/94 (11139).

IRAQ

INTERNAL DEVELOPMENTS

4/94-5/94

Dr. Amatzia Baram of Israel's Haifa University publishes a report stating that many of the 18,000-20,000 technicians, scientists, and engineers who worked on Iraq's nuclear weapons program have returned to nuclear research. Nearly 2,000 machine tools, as well as blueprints for equipment and facilities, are still missing or unaccounted for in Iraq, Baram says.

Security Affairs, 4/94-5/94, pp. 4-5, by Amatzia Baram (11490).

IRAQ WITH BRAZIL

11/1/93-11/15/93

The IAEA's twenty-second nuclear inspection team conducts "detailed microscopic examinations" of nuclear material in Iraq that is believed to be of Brazilian origin. An UNSCOM report states that, "further corroboration will be sought with the assistance of the Brazilian government," regarding these materials.

Philip Finnegan and Theresa Hitchens, *Defense News*, 2/28/94-3/6/94, p. 6 (11012).

IRAQ WITH IAEA AND UNITED NATIONS

11/1/93-11/15/93

The IAEA's twenty-second nuclear inspection team conducts monitoring inspections at eight former "core" Iraqi nuclear facilities. Water samples are taken from the watersheds of the Tigris and Euphrates rivers for a radiometric survey and inspectors verify equipment inventories and data concerning Iraq's centrifuge program. The 17-member inspection team also conducts "detailed microscopic examinations" of nuclear material in Iraq that is believed to be of Brazilian origin. An UNSCOM report states that, "further corroboration will be sought with the assistance of the Brazilian government," regarding these materials. On 11/8/93 UNSCOM reports that no weapons banned under U.N. Security Council resolution 687 were found in Iraq during recent inspections.

Philip Finnegan and Theresa Hitchens, *Defense News*, 2/28/94-3/6/94, p. 6 (11012).

1/30/94

U.N. arms inspector Nikita Smidovich announces that his 16-member team has completed a "successful" ten-day mission in Iraq, during which Iraqi officials agreed to assist in establishing a system for monitoring Iraq's weapons programs. UNSCOM chairman Rolf Ekeus is scheduled to arrive in Iraq on 2/1/94 to discuss the monitoring program.

AFP (Paris), 1/30/94; in JPRS-TND-94-005, 2/25/94, p. 16 (11488).

2/6/94

UNSCOM chairman Rolf Ekeus announces that the U.N. and Iraq continue to disagree

over some details regarding the implementation of the long-term monitoring program. Ekeus held talks with Iraqi Foreign Minister Muhammad Sa'id al-Sahhaf, Deputy Foreign Minister Tariq Aziz, and General Amir Muhammad Rashid. Aziz and Ekeus issue a joint statement expressing their desire to expedite the implementation of a monitoring and verification plan. They state that they share the aim of reporting to the U.N. Security Council that Iraq has complied with paragraph 22 of resolution 687, the clause which provides for the lifting of the oil embargo against Iraq after it has fully complied with the U.N. resolutions regarding the destruction of its weapons of mass destruction. The statement says that the U.N. will continue the "intense phase" of inspections and that talks will resume in 3/94.

Faruq Choukri, AFP (Paris), 2/6/94; in JPRS-TND-94-005, 2/25/94, p. 16 (11141). Leon Barkho, Reuter, 2/2/94; in Executive News Service, 2/4/94 (11141).

2/11/94

IAEA inspector Gary Dillon announces that a seven-member IAEA team concluded a week-long mission in Iraq (from 2/4/94 to 2/11/94) during which it installed two close-circuit cameras and two back-up film cameras at the Um al-Ma'arik engineering facility outside of Baghdad. The site was part of Iraq's uranium enrichment production program. According to Dillon, the inspection was part of an effort to gather baseline information for the ongoing monitoring and verification plan. Dillon says that an IAEA team will return to Iraq within two months to install up to twenty surveillance cameras at two or three more former nuclear sites.

AFP (Paris), 2/11/94; in JPRS-TND-94-006, 3/16/94, p. 26 (11146). Reuter, 2/4/94; in Executive News Service, 2/4/94 (11146).

3/15/94

Iraq's Foreign Minister Muhammad Sa'id al-Shahhaf outlines the provisions of the U.N. Security Council resolutions dealing with Iraq, Iraq's stance on the implementation of those resolutions, and Iraq's insistence that it has fulfilled the requirements of the resolutions. The minister says that Iraq had announced its commitment to the NPT by transmitting to the U.N. six letters

“containing Iraq’s adherence to the Treaty on the Nonproliferation of Nuclear Weapons, 16 messages and statements confirming that Iraq does not possess nuclear weapons and that it does not produce these weapons or any substance that goes into their production, 62 letters containing Iraqi declarations on nuclear positions, and 23 nuclear teams.” Shahhaf also states that Iraq has declared that it had 547 tons of natural uranium, 50 kgs of highly enriched fuel, 1,850 kgs of “a fairly enriched uranium”, 6 kgs of plutonium, and 6 tons of uranium waste. Shahhaf notes that Iraq had also informed the U.N. of the stages of its nuclear program, including uranium ore extraction; electromagnetic, chemical and [centrifuge] enrichment; fuel processing; reactors; waste treatment; and “plants to retrieve depleted nuclear fuel.” Shahhaf says that Western influence is unfairly preventing U.N. acknowledgement of Iraq’s fulfillment of the resolutions.

Al-Thawrah (Baghdad), 3/16/94, p. 2; in JPRS-TND-94-008, 4/1/94, pp. 30-33 (11140).

4/28/94

UNSCOM chairman Rolf Ekeus briefs the U.N. Security Council on his 4/24/94-4/26/94 visit to Iraq and distributes a joint U.N.-Iraqi statement describing the progress made since the last round of high-level talks held on 3/14/94-3/19/94. The statement discusses the actions taken to establish a baseline for the long-term monitoring and verification of Iraqi facilities.

Reuter, 4/28/94; in Executive News Service, 4/28/94 (11061).

IRAQ WITH IAEA, RUSSIA, UNITED NATIONS, AND UNITED STATES

2/12/94

The IAEA, with the help of the U.N. Special Commission on Iraq, removes the last of the two consignments of high-enriched uranium (HEU) in the form of irradiated nuclear fuel from Iraq. The first shipment of HEU was removed from Iraq on 12/4/93. Both shipments of irradiated fuel were removed from Iraq under contract with the Russian Ministry of Atomic Energy and a U.S. subcontractor which provided crash-

proof casks. The irradiated fuel was removed from the Iraqi Nuclear Centre at Tuwaitha and transported by road to Habbaniya airfield west of Baghdad. From the Habbaniya airfield the nuclear material was flown to Yekatinburg, Russia where it will be transported to a reprocessing facility in Chelyabinsk, Russia.

International Atomic Energy Agency Press Release (PR 94/3), 2/15/94 (11002). Reuter, 2/15/94; in Executive News Service, 2/15/94 (11142). *Nuclear News*, 3/94, p. 87 (11142). *Atom*, 3/93-4/94 (11142). Reuter, 2/15/94; in Executive News Service, 2/15/94 (11142).

IRAQ WITH UNITED KINGDOM

4/94

It is reported that U.K. vice-chancellors rejected a secret government proposal that would exclude students and researchers from countries such as Iran, Iraq, North Korea, China, and Libya from working at British universities in fields of study that could be useful in the development of nuclear weapons.

Ngaio Crequer, *Independent*, 4/25/94 (11486).

IRAQ WITH UNITED STATES

1/27/94

Ronald Neumann, Director of the Office of Northern Gulf Affairs of the U.S. State Department, states that the U.S. believes that Iraq will neither give up its quest to acquire weapons of mass destruction nor honor its international commitments. Neumann says that long-term monitoring under UNSCOM must be intrusive and extensive and that the international coalition is determined to prevent Iraq from acquiring weapons of mass destruction. However, Neumann points out that success has been achieved with the destruction of Iraq’s nuclear program and that unrestricted monitoring by UNSCOM will prevent the resurrection of any weapons of mass destruction.

U.S. Department of State Dispatch, 2/7/94, Vol. 5, No. 6, pp. 66-68 (11143).

2/94

Following the Gulf War, a report released by U.S. Representative John Conyers re-

vealed that the Iraqi nuclear weapons program was aided by U.S. exports of such dual-use equipment as lasers, machine tools, computers, and quartz crystals. U.S. support for Iraq during its war with Iran also enabled Iraqi scientists to obtain technical training in the U.S. During a recent U.N. inspection in Iraq, American scientist Arnold Hakkila discovered that four former students from a class he taught on civilian nuclear energy accounting and control at Los Alamos were working at an Iraqi nuclear reactor site.

Jack Anderson and Michael Binstein, *Washington Post*, 2/20/94 (11070).

2/7/94

U.S. Undersecretary of State for International Security Affairs Lynn Davis says that the U.S. will press the Coordinating Committee for Multilateral Export Controls’ successor regime, which will be formed once COCOM is dissolved on 3/31/94, to halt transfers of dual-use and military technology to Iran, Iraq, North Korea, and Libya.

Philip Finnegan and Theresa Hitchens, *Defense News*, 2/28/94-3/6/94, p. 6 (11012).

2/24/94

The U.S. loosens export restrictions for computers, which will allow countries on the U.S. Nuclear Nonproliferation Special Country List, including Israel, Algeria, India, Iran, and Iraq, to buy more advanced digital computers, operating up to 500 million theoretical operations per second (MTOPS), from the U.S. The new regulations only require companies to seek “general licenses,” which require relatively little bureaucratic involvement, for the sale of such computers.

Asra Q. Nomani, *Wall Street Journal*, 2/25/94, p. A16 (11121). Nancy Dunne, *Financial Times*, 2/25/94, pp. 1, 16 (11121).

5/17/94

A U.S. General Accounting Office (GAO) report [“Export Licensing Procedures for Dual-Use Items Need to be Strengthened” (GAO-NSIAD-94-119)] says that since 1988, the U.S. has approved 35% of Iraqi requests for shipments of nuclear-related material, including a shipment of lasers.

R. Jeffrey Smith, *Washington Post*, 5/18/94; in Executive News Service, 5/18/94 (11139). Vincent Kiernan, *New Scientist*, 5/28/94 (11139).

ISRAEL

ISRAEL WITH FINLAND AND RUSSIA

2/18/94

According to the Egyptian Nuclear Energy Agency, the Israeli Atomic Energy Organization and Finnish officials are jointly examining a location in the Negev desert, near Egypt's al-'Awja' area, for a 400 MW Russian nuclear plant. The Egyptian officials say that Finland purchased several nuclear reactors from Russia and had agreed to provide Israel with one of the reactors after it had been updated and modified with Western technology.

Al-Safir (Beirut), 2/18/94, p. 10; in JPRS-TND-94-006, 3/16/94, p. 56 (10983).

ISRAEL WITH GERMANY AND SWITZERLAND

Late 1980s

Israel invests \$10 million in a joint project with the German/Swiss consortium HochtemperaturReaktorbau (HRB) AG in the late 1980s to study the economic viability of using high-temperature gas-cooled reactors (HTGRs) for electricity production, according to Israeli Energy Minister Moshe Shahal. Israel carries out development work with HRB for several years before the project is canceled.

Nucleonics Week, 2/3/94, p. 15 (10980).

ISRAEL WITH RUSSIA AND UNITED STATES

1/94

After returning from a visit to Russia, Israeli Energy Minister Moshe Shahal says that he has rejected an offer from Russia to sell nuclear power plants to Israel. Shahal explains that Israel is more interested in cooperating on future nuclear technologies, possibly with Russia and the U.S., than in buying existing technology, even though

former Israeli Energy Minister Yuval Ne'eman and Professor Amnon Rubinstein had in the past mentioned the possibility of a joint Russian-Israeli venture for a nuclear power plant. Russian officials also offer their help in developing new nuclear power plants in conjunction with the U.S., but Shahal declines for "technical and political reasons."

Qol Yisra'el (Jerusalem), 1/20/94; in JPRS-TND-94-005, 2/25/94, p. 54 (11009). *Nucleonics Week*, 2/3/94, p. 15 (11065).

ISRAEL WITH SOUTH AFRICA

5/94

According to information released from the secret mid-1980s extortion trial of Johann Blaauw, a brigadier in the South African army, South Africa and Israel participated in four clandestine nuclear deals in the mid-1970s. The first nuclear transaction occurred shortly after the Yom Kippur war in 1973 and involved the sale of 50 metric tons of yellowcake to Israel. In the second transaction, South Africa imported 30 grams of tritium, which is used to create thermonuclear bombs. The third and fourth transactions involved South Africa exporting 50 and 500 metric tons of yellowcake, respectively, to Israel.

ISIS Report, 5/94, p. 5 (11478).

ISRAEL WITH SOUTH KOREA

10/5/93

It is reported that South Korea has reached agreement with Israel "for scientific cooperation on several levels." According to Seoul press sources, the agreement will enhance South Korean efforts to acquire "advanced weapons components or technology."

Choson Ilbo, 10/5/93; in JPRS-TND-94-008, 4/1/94, pp. 18-20 (11264).

ISRAEL WITH UNITED STATES

2/24/94

The U.S. loosens export restrictions for computers, which will allow countries on the U.S. Nuclear Nonproliferation Special Country List, including Israel, Algeria, India, Iran, and Iraq, to buy more advanced

digital computers, operating up to 500 million theoretical operations per second (MTOPS), from the U.S. The new regulations only require companies to seek "general licenses," which require relatively little bureaucratic involvement, for the sale of such computers.

Asra Q. Nomani, *Wall Street Journal*, 2/25/94, p. A16 (11121). Nancy Dunne, *Financial Times*, 2/25/94, pp. 1, 16 (11121).

5/17/94

A U.S. General Accounting Office (GAO) report ["Export Licensing Procedures for Dual-Use Items Need to Be Strengthened" (GAO-NSIAD-94-119)] states that since 1988, the U.S. has approved 880 licenses to export nuclear-related equipment to organizations linked with Israel's nuclear program. Over 80% of the requested shipments to Israel were approved. Of the licenses linked to Israel, 238 were for high-speed computers, and for 62 of these the U.S. received direct assurances from the Israeli government that the equipment would not be used in the development of nuclear weapons. At some point since 1988, the U.S. agreed to the sale of high-speed "streak" cameras to Israel.

R. Jeffrey Smith, *Washington Post*, 5/18/94; in Executive News Service, 5/18/94 (11139). Vincent Kiernan, *New Scientist*, 5/28/94 (11139). Martin Walker, *Guardian*, 5/19/94 (11139).

JAPAN

INTERNAL DEVELOPMENTS

2/4/94

North Korea's Foreign Ministry issues a statement accusing Japan of attempting to produce nuclear weapons by proceeding with its first fast breeder reactor at Monju. The statement also says that "Japan has already developed not only electronic detonating device and other elements for the manufacture of nuclear bombs and their technologies but also long-range means of nuclear delivery that can be used as intercontinental ballistic missile."

Reuter, 2/4/94; in Executive News Service, 2/4/94 (11439). KCNA (Pyongyang), 2/4/94; in JPRS-TND-94-005, 2/25/94, p. 5 (11439).

2/6/94

It is reported that Japan will cut back on plutonium production from spent nuclear fuel as part of the Atomic Energy Commission's long-term nuclear energy plan. The plan will not affect the Rokkasho reprocessing plant which is now under construction, but will delay the start-up of a second reprocessing plant until 2030.

Kyodo (Tokyo), 2/6/94; in JPRS-TND-94-005, 2/25/94, p.4 (11497).

3/11/94

Japanese Prime Minister Morihiro Hosokawa denies that Japan is seeking to develop or acquire nuclear weapons, citing the "nuclear allergy" of the Japanese people as one reason. Japan's non-nuclear stance is reaffirmed on 4/28/94 by Toshio Goto, Japan's ambassador to South Korea, who says that the "new Prime Minister Hata stands firm on this issue."

Kyodo (Tokyo), 3/11/94; in JPRS-TND-94-006, 3/16/94, pp. 10-11 (11470). Yonhap (Seoul), 4/28/94; in JPRS-TND-94-011, 5/16/94, p. 8 (11470).

JAPAN WITH BELARUS

1/24/94

The Japanese Foreign Ministry states that by 3/94 Japan plans to complete the outline agreement for an aid package to Belarus for the destruction of nuclear weapons previously owned by the USSR. Diplomats from Japan are discussing how much of the \$100 million package, allotted to the CIS in 4/93, will go to Belarus.

Itar-Tass (Moscow), 1/24/94; in JPRS-TND-94-005, 2/25/94, p. 51 (11156).

JAPAN WITH FRANCE

4/20/94

Japan's Federation of Electric Power Companies (FEPCO) announces that, starting in 2/95, vitrified high-level radioactive waste (HLW) generated by the reprocessing of Japanese spent nuclear fuel will be returned to Japan from the spent fuel reprocessing plant owned by France's Cogema. In total,

28 containers of HLW will be transported from La Hague in casks custom-made by Japan's Mitsubishi Heavy Industries aboard a ship owned by the U.K.'s British Nuclear Fuels. The shipment is scheduled to arrive in the Japanese port of Mutsu-Ogawara between 3/95 and 5/95, and will be stored for 30-50 years at the HLW management facilities of the Rokkasho Reprocessing Plant, which is 70% complete after having been started in 5/92.

Japan Atomic Industrial Forum; in *ENS NucNet*, 4/21/94 (11101).

JAPAN WITH IAEA

2/94

The IAEA Department of Safeguards predicts that if India and Japan pursue their planned plutonium projects in the 1990s, the percentage of IAEA safeguard inspections which deal with plutonium separation will double. In Japan, a commercial reprocessing plant currently under construction by Japan Nuclear Fuels Ltd. will require an additional 1,800 annual inspector days, beginning in 1998.

Nucleonics Week, 2/3/94, p. 14 (11267).

5/94

Japanese officials deny claims made by U.S. nuclear activist Paul Leventhal that almost 70 kg of plutonium has disappeared and remains unaccounted for. The Japanese officials state that the plutonium has accumulated inside 17 glove boxes in the fuel production line at the Plutonium Fuel Production Facility (PFPP) over the last four years. After a routine monthly inspection in 4/94, the IAEA releases a statement on 5/25/94 saying that the nuclear material is merely "held up" in the glove boxes and remains under international safeguards.

Nucleonics Week, 5/12/94, pp. 5-6 (11469). *Mainichi Shimbun*, 5/26/94 (11469).

JAPAN WITH KAZAKHSTAN

1/24/94

The Japanese Foreign Ministry states that by 3/94 Japan plans to complete the outline agreement for an aid package to Kazakhstan for the destruction of nuclear weapons pre-

viously owned by the USSR. Diplomats from Japan are discussing how much of the \$100 million package, allotted to the CIS in 4/93, will go to Kazakhstan.

Itar-Tass (Moscow), 1/24/94; in JPRS-TND-94-005, 2/25/94, p. 51 (11156).

3/11/94

Japan finalizes an agreement with Kazakhstan to assist in dismantling Kazakhstan's nuclear weapons. This agreement resembles agreements Japan has signed with Russia, Belarus and Ukraine. Japan plans to spend \$100 million for aid to these four countries.

Nihonkeizai Shimbun, 3/12/94 (11385).

4/94

Kazakhstan President Nursultan Nazarbayev visits Japan to discuss economic and disarmament issues. Japan gives a "high assessment" of the disarmament process in Kazakhstan at the close of the visit.

Itar-Tass (Moscow), 4/6/94; in FBIS-SOV-94-067, 4/7/94, p. 55 (11385). Sergey Bunin, *Trud* (Moscow), 4/12/94, p. 6; in FBIS-SOV-94-071, 4/13/94, p. 58 (11385).

4/7/94

Japanese Prime Minister Morihiro Hosokawa promises \$11 million in aid to help Kazakhstan dismantle its nuclear weapons. This follows a 3/11/94 agreement made between Kazakhstan and Japan whereby Japan agreed to give Kazakhstan financial help in the disarmament process.

Kyodo (Tokyo), 4/7/94; in JPRS-TEN-94-010, 4/15/94, p. 7 (11229). *Atoms In Japan*, 4/94, pp. 41-42 (11238).

5/94

It is reported that representatives from Japan and other countries have visited Almaty to review issues related to the security of nuclear materials in Kazakhstan.

Kaztag (Almaty), 5/19/94; in FBIS-SOV-94-098, 5/20/94, p. 59 (11232).

JAPAN WITH NORTH KOREA

2/22/94

Former Japanese Foreign Minister Michio Watanabe encourages the Japanese government to strictly enforce Japan's "laws to pro-

hibit the outflow of high-technology products to North Korea.” Watanabe says that North Koreans residing in Japan may be smuggling high-technology items to North Korea via ferry from the port of Niigata, and cites incidents where North Korean residents, “working to arrange the weekly charter voyages, have been in charge of checking cargo contents, opening up the possibility for violations of COCOM.” Watanabe’s comments follow raids carried out by the police in 1/94 “on trading houses and makers of high-technology products” which were thought to have exported technology regulated under COCOM, such as spectrum analyzers, to North Korea.

UPI, 2/22/94; in Executive News Service, 2/22/94 (11355). Reuter, 2/22/94; in Executive News Service, 2/22/94 (11355).

4/4/94

It is reported that Chongryun, the secretive General Association of Korean Residents in Japan, is using Japanese front companies to buy equipment for North Korea’s missile and nuclear programs, according to Japanese intelligence sources. Chongryun is the sponsor of the passenger-cargo ship that carries high-tech goods, including high-powered computers, to North Korea from Japan’s port of Niigata.

Edward W. Desmond, *Time*, 4/4/94, pp. 24-25 (11460).

5/19/94

The Japanese Finance Ministry says that some Japanese banks have voluntarily halted sending dollars to the DPRK due to the increasing sensitivity to claims that the money may be helping the DPRK to fund its nuclear program. As of the beginning of 1994, Ashikaga Bank in Japan had stopped remitting dollars from other Japanese banks to North Korea. However, a Japanese finance official says that “remittance of money in yen and marks is still carried out.” According to Japanese officials, the U.S. requested that Tokyo regulate the remittances, since it fears part of the money is used to fund North Korea’s nuclear program.

Michiyo Nakamoto, *Financial Times*, 5/20/94 (11253).

JAPAN WITH PRC

2/94

It is reported that Japan’s Maeda Corporation took part in the construction of China’s a Guangdong (Daya Bay) nuclear power plant, which started commercial operation on 2/1/94.

Nuke Info Tokyo, 3/94-4/94, p. 10 (11495).

4/94

China’s National Nuclear Safety Administration (NNSA) reaches a nuclear safety cooperation accord with the Nuclear Safety Bureau of Japan’s Science and Technology Agency.

Xinhua (Beijing), 5/3/94; in JPRS-TND-94-011, 5/16/94, p. 47 (11093).

4/94

The Nuclear Safety System Institute (NSSI), a subsidiary of Japan’s Kansai Electric Power Co., begins working with China to improve Chinese nuclear safety.

Nihonkeizai Shimbun, 4/19/94 (11093).

5/3/94

China and Japan sign a “cooperation arrangement on nuclear safety” which provides for information and personnel exchanges in order to improve nuclear safety. The agreement is in conjunction with a 1985 nuclear energy cooperation agreement signed by the two countries.

Xinhua (Beijing), 5/3/94; in JPRS-TND-94-011, 5/16/94, p. 47 (11093). *Hikan Kogyo Shimbun*, 5/2/94 (11093).

JAPAN WITH RUSSIA

1/94

As part of a 1993 Russian-Japanese Inter-governmental Agreement on Cooperation on Safety in the Nuclear Power Industry, Japanese and Russian specialists begin installing a Japanese acoustic device at the Leningrad nuclear power station. The device, valued at more than U.S. \$900,000, will detect radiation leaks from the Leningrad nuclear power station’s RBMK-1000 reactors.

Izvestiya (Moscow), 1/26/94, First Edition, p. 2; in JPRS-TEN-94-003, 2/7/94, p. 43 (11216). *Nuclear Europe Worldscan*, 1-2/94, p. 26 (11216).

2/94

Officials in Vladivostok approve the construction of nuclear waste storage tanks, to prevent further dumping of nuclear waste in the Sea of Japan. These tanks will be installed approximately 125 miles to the east of Vladivostok. Japan has agreed to finance the construction by Japanese firms of a nuclear-waste reprocessing plant in the Far East, on the condition that Russia stop ocean dumping.

Wall Street Journal, 2/15/94, p. A15 (11063).

3/94

Russia’s Maritime Kray Governor Yevgeniy Nozdratenko says that he has secured Russian Foreign Minister Andrey Kozyrev’s support for the construction of a reprocessing plant for liquid nuclear waste from Russian nuclear submarines in Maritime Kray. The work would be carried out by the Maritime Kray Administration under Japanese supervision. Another similar reprocessing plant is to be constructed at a Russian Pacific Fleet nuclear waste storage facility.

Russian Television Network (Moscow), 4/19/94; in JPRS-TEN-94-009, 4/7/94, p. 38 (11222).

3/3/94

An international technology and science center established in Moscow, Russia to decrease the proliferation of nuclear weapons expertise and technology from the former USSR formally begins operations. The center was set up under an agreement between Russia, the U.S., the E.U., and Japan.

Kyodo (Tokyo), 3/3/94; in JPRS-TND-94-007, 3/23/94, p. 30 (11209).

4/94

Russian and Japanese officials discuss a plan to build a facility in the Russian Far East where low level waste from Russia’s naval nuclear fleet could be treated and stored. Construction of the facility would be financed by U.S. \$78 million committed by Japan at the 1993 G7 economic summit as “denuclearization” aid to Russia.

Nucleonics Week, 4/28/94, p. 16 (11221).

4/8/94

Russian Nuclear Energy Minister Mikhailov says that Russia and Japan have reached a decision to cooperate on building a \$600-

700 million underground nuclear power plant in the Russian Far East.

Sankei Shimbun, 4/9/94 (11161).

4/13/94

The Director of the Nuclear Reactor Department in Russia's Ministry of Atomic Energy says that Russia would like to develop a partnership with Japan for construction of the BN-800 fast breeder reactor. The BN-800 utilizes plutonium from dismantled warheads.

Nihonkeizai Shimbun, 4/14/94 (11169). *Asahi Shimbun*, 4/14/94 (11169).

JAPAN WITH RUSSIA AND UNITED STATES

5/23/94

The Vice President of Russia's Academy of Science states that Russia and the U.S. firm General Atomic Company are working together to develop a gas reactor utilizing plutonium from dismantled warheads. Russia has also proposed a role for Japan in the project.

Hikan Kogyo Shimbun, 5/24/94 (11163).

JAPAN WITH SOUTH KOREA

5/25/90

South Korea and Japan reach an atomic energy cooperation accord which envisages technological exchanges and joint atomic energy research, according to a 5/4/94 report by a North Korean network.

Korean Central Broadcasting Network (Pyongyang), 5/4/94; in JPRS-TND-94-011, 5/16/94, pp. 4-5 (11465).

11/9/90

At a conference, South Korea and Japan agree to "jointly promote the development of next-generation reactors," according to a 5/4/94 report by a North Korean network.

Korean Central Broadcasting Network (Pyongyang), 5/4/94; in JPRS-TND-94-011, 5/16/94, pp. 4-5 (11465).

11/6/93

At a "secret meeting," South Korean President Kim Yong-sam and Japanese Premier Hosokawa in Kyongju agree to jointly de-

velop nuclear weapons, according to a 5/4/94 report by a North Korean network.

Korean Central Broadcasting Network (Pyongyang), 5/4/94; in JPRS-TND-94-011, 5/16/94, pp. 4-5 (11465).

JAPAN WITH SPAIN

3/94

It is reported that Spain's ENUSA is currently developing plans to cooperate with Japanese firms in the area of nuclear power.

Ignasi Soler, *El Pais* (Madrid), 3/28/94 (11492).

JAPAN WITH TAIWAN

3/94

It is reported that Japan's Mitsubishi and Hitachi will be invited to a Taiwanese conference for the bidding for turbine equipment for Taiwan's fourth nuclear power plant. The conference will be held on 4/7/94.

Nuclear Report From Taiwan, 1/94-3/94, pp. 3, 10 (11051).

4/13/94

It is reported that Taiwan will accept offers from Japanese companies in the bidding for its fourth nuclear power plant. Taiwan had prohibited nationalized firms from importing Japanese goods due to mounting trade deficits, but is attempting to liberalize its trade policies in order to become a party to the General Agreement on Tariffs and Trade.

Nikkankogyo Shimbun, 4/13/94 (11110).

JAPAN WITH UKRAINE

1/24/94

The Japanese Foreign Ministry states that by 3/94 Japan plans to complete the outline agreement for an aid package to Ukraine for the destruction of nuclear weapons previously owned by the USSR. Diplomats from Japan are discussing how much of the \$100 million package, allotted to the CIS in 4/93, will go to Ukraine.

Itar-Tass (Moscow), 1/24/94; in JPRS-TND-94-005, 2/25/94, p. 51 (11156).

JAPAN WITH UNITED STATES

2/94

The U.S. Energy Department announces that it will cancel the \$112 million in research projects being conducted on the use of plutonium in nuclear reactors. The U.S. decision is a setback to the Japanese government, which has an interest in the subject and had agreed to contribute \$30 million to support the research.

R. Jeffrey Smith, *Washington Post*, 2/12/94; in Executive News Service, 3/15/94 (11468).

4/94

Japanese speakers at the Japan Atomic Industrial Forum in Hiroshima state that the U.S. and other western nations will eventually seek spent fuel reprocessing technology from Japan.

Margaret L. Ryan, *Nucleonics Week*, 5/5/94, pp. 1, 12 (11466).

LIBYA

INTERNAL DEVELOPMENTS

2/19/94

The international affairs editor of Libya's Great Jamahiriya Radio Network says that Libya neither has "the capability to own nuclear weapons nor is interested in or thinking of owning nuclear weapons," and that its facilities are inspected annually by the IAEA.

Great Jamahiriya Radio Network (Tripoli), 2/19/94; in JPRS-TND-94-006, 3/16/94, pp. 26-27 (11072).

LIBYA WITH BRAZIL

1/24/94

The Brazilian government is waiting for Congressional approval of draft bill 2530/92, which would prohibit Brazil from re-exporting technologies received from industrialized countries to third countries such

as Libya, Iraq, and North Korea. The bill establishes import and export controls on dual-use military goods.

Maria Helena Tachinardi, *Gazeta Mercantil* (Sao Paulo), 1/24/94, p. 9; in JPRS-TND-94-004, 2/11/94, pp. 8-9 (11040).

LIBYA WITH NUCLEAR SUPPLIERS GROUP

4/11/94-4/14/94

At a Nuclear Suppliers Group (NSG) plenary meeting in Madrid, Spain, NSG members discuss guidelines covering the supply of nuclear items and materials to countries of proliferation concern which are NPT members, including Libya, Iran, North Korea, and Syria.

Arms Control Today, 5/94, p. 24 (10992).

LIBYA WITH RUSSIA

Early 1994

Italian nuclear trafficking expert Romano Dolce says that Libya, Iraq, and Iran are spending large amounts of money to buy the controversial substance called red mercury, which is thought to be produced by Russia, in order to build nuclear weapons.

Sunday Times (London), 5/22/94 (11164).

2/94

Experts from Libya's Tajura nuclear research center visit the Kursk nuclear power plant in Russia, but their suggestion for joint research on a reactor core is strongly rejected by the Kursk nuclear power plant management. Nevertheless, the Russians and Libyans agree on cooperation in various experiments and projects. Sources say the value of the agreements to Kursk is far in excess of \$100,000. Libyan delegates convince Atomenergoexport and Kursk power plant leaders that Libya will use nuclear power only for peaceful purposes.

Komsomolskaya Pravda, 2/12/94, p. 1; in JPRS-TND-94-006, 3/16/94, p. 58 (11181).

LIBYA WITH UNITED KINGDOM

4/94

It is reported that U.K. vice-chancellors rejected a secret government proposal that would exclude students and researchers from countries such as Iran, Iraq, North Korea, China, and Libya from working at British universities in fields of study that could be useful in the development of nuclear weapons.

Ngaio Crequer, *Independent*, 4/25/94 (11486).

LIBYA WITH UNITED STATES

2/7/94

U.S. Undersecretary of State for International Security Affairs Lynn Davis says that the U.S. will press the successor regime to the Coordinating Committee for Multilateral Export Controls (COCOM), which will be formed once COCOM is dissolved on 3/31/94, to halt transfers of dual-use and military technology to Libya, Iran, Iraq, and North Korea.

Philip Finnegan and Theresa Hitchens, *Defense News*, 2/28/94-3/6/94, p. 6 (11012).

3/7/94

It is reported that the U.S. will maintain its ban on the export of nuclear balance of plant equipment to Libya, Cambodia, Cuba, North Korea and Vietnam.

Daniel Kaplan, *Energy Daily*, 3/7/94 (11031).

NORTH KOREA

INTERNAL DEVELOPMENTS

2/12/94

North Korean ambassador to Russia Son Song-pil denies that North Korea has "the intention" or "the material potential to produce nuclear weapons," and says that the North's "armed forces are built on the principle of self-defense and threaten no one."

Sergey Turchenko, *Sovetskaya Rossiya* (Moscow), 2/12/94; in FBIS-SOV-94-030, 2/14/94, pp. 20-21 (11353).

2/14/94

Vladimir Kumachev, an adviser to the director of Russia's Institute of National Security and Strategic Research, is quoted as saying that North Korea "currently possesses both nuclear weapons and the missiles with which to deliver them."

Stephen Foye, *RFE/RL News Briefs*, 2/14/94-2/18/94, p. 2 (11444). AFP (Seoul), 2/14/94; in JPRS-TND-94-006, 3/16/94, pp. 11-12 (11444).

2/28/94

It is reported that according to Western intelligence, the design of the North Korean reprocessing complex being built in Yongbyon was intended specifically for the use of plutonium separation technologies developed by a consortium of 13 European countries called the European Company for the Chemical Processing of Irradiated Fuels (Eurochemic), located in Belgium and Germany. According to a western official, "we know that they [North Korea] have the Belgian technology. It remains to be seen whether they have used it yet." North Korea uses magnesium-alloy cladding in fuel assemblies for a 30 MW (thermal) reactor at Yongbyon. Published information by Eurochemic indicates that the chemical decladding process creates less waste for irradiated magnesium-alloy-clad fuel than for Zircalloy-clad fuel. However, North Korea did not use the Eurochemic know-how for separating the small quantity of plutonium it declared in 1990 to the IAEA, since none of the waste seen by the IAEA had been bitumenized.

Mark Hibbs, *NuclearFuel*, 2/28/94, pp. 6-7 (11360).

3/9/94

A high ranking Chinese diplomatic source says that due to economic limitations, North Korea is not yet at a level to develop nuclear warheads. The source says that "after a long investigation into various aspects of the North Korean nuclear issue, China judges that North Korea's current nuclear technology is only at the level of reprocessing plutonium and that it has yet to reach the level of nuclear enrichment."

Kim Chung-kun, *Tong-a Ilbo* (Seoul), 3/9/94, p. 2; in JPRS-TND-94-007, 3/23/94, p. 2 (11359).

3/22/94

North Korean defector Sgt. Lee Chung-guk tells a news conference in Seoul that he has learned that North Korea is secretly developing nuclear weapons inside a hidden facility dug into the mountains. Lee, who formerly worked at a chemical-warfare unit of the People's Armed Forces, says he received this information from a senior North Korean army official, but does not disclose the location of the facility.

Washington Times, 3/25/94, p. A16 (11357).

3/23/94

IAEA spokesman David Kyd announces that it appears that North Korea will complete the construction of its second nuclear reactor (50 MW) located in Yongbyon on schedule by the end of 1994. Kyd also announces that North Korea is constructing its third nuclear reactor, a 200 MW reactor in Taechon, that is scheduled for start-up in early 1996.

KBS-1 Radio Network (Seoul), 3/23/94; in JPRS-TND-94-008, 4/1/94, p. 49 (11350).

3/24/94

It is reported that according to U.S. and European officials, North Korea may have built and used an unsafeguarded second reprocessing line at its Yongbyon reprocessing complex. The line is used to separate plutonium from spent fuel and could double North Korea's plutonium production capacity.

Mark Hibbs and Naoaki Usui, *Nucleonics Week*, 3/24/94, pp. 1-2 (11496). R. Jeffrey Smith, *Washington Post*, 4/2/94; in Executive News Service, 4/2/94 (11496).

4/6/94

North Korean ambassador to India Cha Bong-Ju says his country faces the "threat of nuclear arms development by South Korea and Japan". Cha says North Korea would decide if it should develop nuclear weapons to protect its sovereignty, adding that the DPRK would not target South Korea or the U.S. with nuclear missiles. Cha reiterates that the DPRK's claims that it is not planning to build such weapons.

Eugene Moosa, Reuter, 4/7/94; in Executive News Service, 4/7/94 (11254).

4/7/94

The North Korean legislature calls for a "large-scale" nuclear power program in order to address power shortages in North Korea.

Christian Science Monitor, 4/8/94 (11256).

4/7/94

U.S. Assistant Defense Secretary for International Security Affairs Ashton Carter says that North Korea is poised for a technological "leap forward" in its suspected development of nuclear weapons. Within 6 to 18 months, North Korea will have to shut down its 25 MW reactor at Yongbyon for refueling, which will give it access to the weapons-grade fissile material in the reactor core. Pyongyang may then start up a 200 MW reactor, which could produce more weapons-grade plutonium by irradiating fuel.

Bill Gertz, *Washington Times*, 4/8/94, p. A3 (11410). *Aerospace Daily*, 4/11/94, p. 55 (11410).

Mid-4/94

North Korean President Kim Il-sung denies that his country is developing, or will ever develop, nuclear weapons, and indicates that North Korea has neither the need, the desire, nor the means to do so. Kim also stresses that North Korea will not allow IAEA inspections of two suspected nuclear facilities.

Josette Shiner and Michael Breen, *Washington Times*, 4/19/94, p. A1 (11447). Radio Moscow, 4/18/94; in FBIS-SOV-94-075, 4/19/94, p. 14 (11447).

4/20/94

South Korea's chief of combat intelligence, Col. Park Sung-chun, estimates that North Korea has accumulated 33 pounds of plutonium, which is enough to build two nuclear weapons.

Robert Burns, Associated Press; in *Washington Times*, 4/21/94, p. A12 (11260).

4/21/94

Claremont Institute analyst William Rusher estimates that North Korea may be able to divert spent plutonium from its nuclear reactors to the production of "perhaps 30 or 40" nuclear bombs per year.

William A. Rusher, *Washington Times*, 4/21/94, p. A16 (11263).

5/23/94

North Korean defector Kim Dai-ho, who was formerly an official at the Yongbyon reprocessing plant, says that although North Korea has publicly denied reprocessing spent fuel from a reactor at Yongbyon in 1988, it secretly removed 12 kg of plutonium at that time.

International Herald Tribune, 5/24/94, p.2 (11461). *Der Standard*, 5/24/94 (11461).

5/30/94

It is reported that a number of U.S. nonproliferation experts believe North Korea could be attempting to develop nuclear weapons by mining and enriching uranium. Joseph Bermudez surmises that North Korea could have built and hidden underground critical uranium enrichment facilities prior to the time when the U.S. began to concentrate on the country as a possible proliferator in the 1980s.

Kevin Fedarko, *Time*, 5/30/94, p. 45 (11459).

NORTH KOREA WITH IAEA AND UNITED NATIONS

2/4/94

U.N. representatives from the U.S., U.K., France and Russia meet in order to persuade China to put pressure on North Korea to permit IAEA inspections of its nuclear facilities. The U.S. and other representatives warn that if North Korea has not allowed inspections by the next IAEA Board of Governors meeting starting on 2/21/94, they will push for Security Council sanctions.

Paul Lewis, *New York Times*, 2/5/94, p. A5 (11358).

2/4/94

North Korean envoy to the IAEA Yun Ho-jin says that "the conflicting positions" of the IAEA and DPRK "cannot be merged at the moment" and that "no immediate prospect" exists for allowing the IAEA to administer unconditional inspections of the North's nuclear sites. Yun argues that North Korea "will not accept to clarify everything" and that it has "offered enough to prove the continuity of knowledge [about North Korea's nuclear activities]."

Douglas Hamilton, *Washington Times*, 2/5/94 (11354). KBS-1 Radio Network (Seoul), 2/3/94; in JPRS-TND-94-005, 2/25/94 (11354). *Washington Post*, 2/5/94, p. A18 (11354).

2/15/94

North Korean diplomat Yun Ho-jin delivers a letter to the IAEA stating that the DPRK will permit the IAEA to conduct inspections of its seven declared sites. The IAEA confirms that "DPRK authorities accept the inspection activities which have been requested by the IAEA in the seven declared nuclear facilities," and that "the aim of the inspection activities is to verify that nuclear material in these facilities has not been diverted since earlier inspections." North Korea agrees to allow inspectors to carry out the "reloading of cameras and changing of seals, to facilitate future verification" and says that the IAEA can send a team of inspectors "as soon as the necessary formalities for entry have been arranged."

David E. Sanger, *New York Times*, 2/16/94, pp. A1, A7 (11442). IAEA Press Release, PR 94/4, 2/15/94 (11442).

2/21/94

IAEA Director-General Hans Blix reports to the IAEA Board of Governors that North Korea has sent a telex to the Agency "linking the date of the receipt of the IAEA inspections with the dates of 'a number of specific action measures' which are related to currently expected contacts between the U.S. and North Korea."

Douglas Hamilton, *Reuter*, 2/21/94; in *Executive News Service*, 2/21/94 (11462).

3/1/94-3/15/94

A six person IAEA inspection team, led by Olli Heinonen, conducts nuclear inspections in North Korea at both the Yongbyon nuclear complex and at Kim Il-sung University in Pyongyang. On 3/8/94, a high-ranking South Korean government official states that the IAEA inspection team is facing obstacles from North Korea, noting that North Korea "is rejecting the extraction of samples from a radioactive chemistry laboratory in Yongbyon which is estimated to be a nuclear reprocessing facility."

IAEA Press Release, PR 94/7, 3/16/94 (11463). Steve Pagani, *Reuter*, 3/15/94; in *Executive News Service*, 3/15/94 (11463). David E. Sanger, *New York Times*, 3/16/94, pp. A1, A4 (11463). Munhwa Ilbo (Seoul), 3/8/94, p. 2; in *JPRS-TND-94-006*, 3/16/94, p. 49 (11498).

3/16/94

The IAEA Secretariat, during an informal briefing, reports to the Agency's Board of Governors on the inspections held in North Korea from 3/1/94 to 3/15/94. Because North Korea refuses to allow IAEA inspectors to carry out key inspection measures at the Yongbyon radiochemical laboratory (reprocessing plant), the Secretariat says the Agency "is not in a position to verify" that North Korea has not diverted nuclear material to weapons purposes. IAEA inspectors are prevented from mapping gamma radiation and sampling materials "at key areas" of the Yongbyon reprocessing complex, and discover "that at least one of 40 safeguards seals applied in 1992 and 1993 to nuclear materials inventories and equipment at Yongbyon had been tampered with."

David E. Sanger, *New York Times*, 3/16/94, pp. A1-A4 (11463). IAEA Press Release, PR 94/7, 3/16/94 (11463). Mark Hibbs, *Nucleonics Week*, 3/17/94, pp. 3-4 (11463).

3/21/94

The IAEA Board of Governors meets and determines North Korea to be "in further non-compliance with its safeguards agreement" and to have "aggravated this situation," following written and oral reports by IAEA Director-General Hans Blix that North Korea obstructed IAEA inspections during the most recent visit by inspectors on 3/1/94-3/15/94. The Board adopts a resolution calling upon North Korea "immediately to allow the IAEA to complete all requested inspection activities and to comply fully with its safeguards agreement." The resolution passes with 25 countries in favor and Libya as the only vote against, with 5 abstentions.

Jon B. Wolfsthal, *Arms Control Today*, 4/94, pp. 19, 27 (11441). IAEA Press Release, PR 94/9, 3/21/94 (11441). *Yonhap* (Seoul), 3/22/94; in *JPRS-TND-94-008*, 4/1/94, pp. 47-48 (11441).

3/24/94

The spokesman of North Korea's General Department of Atomic Energy issues a statement against the "unreasonable 'resolution'" adopted by the IAEA Board. The spokesman claims that "no one can find fault with the results of the recent inspection," since North Korea "fully allowed all inspection activities needed for maintaining the conti-

nunity of safeguards in accordance with the [2/15/94] Vienna agreement."

U.N. Security Council document, S/1994/344, 3/25/94 (11450).

3/25/94

IAEA Director-General Hans Blix says that during nuclear inspections in North Korea from 3/1/94-3/15/94, inspectors were not given full access to a radiochemical laboratory, although they were able to inspect six other agreed facilities. Blix says that inspectors were blocked from conducting a smear test which would have revealed whether the radiochemical laboratory had been operated since the last inspection in 1993.

Press Briefing by Director-General of IAEA, 3/25/94 (11440).

3/31/94

The U.N. Security Council issues a statement which calls on North Korea to allow for the completion of IAEA nuclear inspections, and refers to a six-week deadline for compliance. The U.N. also asks that North and South Korea resume inter-Korean talks on mutual nuclear inspections, and characterizes the resumption of inspections as "a step in fulfilling" North Korea's obligations undertaken in its 2/94 inspections agreement with the IAEA.

Paul Lewis, *New York Times*, 4/1/94, p. A4 (11429). John Burton, *Financial Times*, 4/2/94, p. 4 (11429).

4/4/94

A spokesman for the North Korean Ministry of Foreign Affairs rejects a recent U.N. statement on North Korean nuclear inspections, and stresses that North Korea is open only to inspections guaranteeing "the continuity of safeguards, not routine and ad hoc inspections." North Korea vows to resume its peaceful nuclear activities.

Democratic People's Republic of Korea, Permanent Mission to the United Nations, Press Release no. 23, 4/5/94 (11429).

4/13/94

IAEA Director-General Hans Blix stresses the importance of gaining access to a radiochemical laboratory in Yongbyon and a 5 MW experimental reactor in order to fully conclude the inspections which North Ko-

rea blocked the IAEA from completing in 3/94. Blix expresses hope that the inspections could be conducted by the end of 4/94 or the beginning of 5/94, but as of 4/13/94, the IAEA has received no reply from North Korea to its request. Blix also voices concern that North Korea possesses more plutonium than reported, noting that "in [the] course of the IAEA's inspection in spring 1993 there was a conclusion that they have more plutonium than declared. Grams or kilograms, I cannot say." Blix discloses that North Korea is presently working on constructing a second [reprocessing] production line in the radiochemical laboratory, which is expected to be completed in the near future.

David E. Sanger, *New York Times*, 4/15/94, p. A4 (11261). Kyodo (Tokyo), 4/13/94; in JPRS-TND-94-010, 5/5/94, p. 42 (11261). *Mainichi Shimbun*, 4/14/94 (11261). KBS-1 Radio Network (Seoul), 4/13/94; in JPRS-TND-94-010, 5/5/94, p. 42 (11261).

Mid-4/94

North Korean President Kim Il-sung says that North Korea will not allow IAEA inspections of two suspected nuclear facilities.

Radio Moscow, 4/18/94; in FBIS-SOV-94-075, 4/19/94, p. 14 (11447).

4/20/94

North Korea asks the IAEA to send personnel to break inspection seals on the 5 MW Yongbyon reactor so that North Korea can conduct refueling operations.

Nucleonics Week, 4/28/94, pp. 17-18 (11427).

4/21/94

The North Korean Foreign Ministry issues a memorandum describing the "major obstacles" to a resolution of the nuclear inspections issue, and indicates that "dialogue and negotiations" are the only means of reaching a conclusion to the matter. North Korea stresses its "special status" under the Non-Proliferation Treaty, and says that as long as it maintains that status, "any inspections under the Safeguards Agreement will never be allowed." IAEA-installed safeguards at North Korea's Yongbyon complex include "over 40 metals seals and more than 10 paper seals, gamma mappings at 20 points, over 50 sheets of status change iden-

tification photographs and the spike liquid for freezing processes at five vessels, and the Agency's surveillance devices installed at these facilities are six surveillance cameras, one spent fuel rod container, and three thermal luminescence detectors."

Democratic People's Republic of Korea, Permanent Mission to the United Nations, Press Release no. 26, 4/21/94 (11413). United Nations Security Council document, S/1994/484, 4/21/94 (11413).

4/21/94

The IAEA says it will send personnel to North Korea to monitor the refueling of the Yongbyon reactor only if North Korea explicitly permits certain activities, such as random sampling of some 850 fuel pins from the reactor core, which are critical to full inspection of the refueling process.

Nucleonics Week, 4/28/94, pp. 17-18 (11427).

4/27/94

North Korea announces that it will not accept full IAEA inspections of the spent nuclear fuel it will remove from its 5 MW Yongbyon reactor. North Korea accepts seven of the IAEA's inspection demands, but refuses to permit sample-taking.

R. Jeffrey Smith, *Washington Post*, 4/28/94; in Executive News Service, 4/29/94 (11428). KCNA (Pyongyang), 4/27/94; in JPRS-TND-94-011, 5/16/94, pp. 42-43 (11428). Yonhap (Seoul), 4/29/94; in JPRS-TND-94-011, 5/16/94, p. 43 (11428).

4/29/94

North Korea notifies the IAEA that it rejects IAEA conditions for monitoring the refueling of North Korea's 5 MW reactor at Yongbyon. North Korea agrees to allow the presence of inspectors and the counting of fuel rods, but refuses the IAEA's demand to closely inspect the rods themselves.

KBS-1 Radio Network (Seoul), 4/29/94; in JPRS-TND-94-011, 5/16/94 (11448). Joan Biskupic and R. Jeffrey Smith, *Washington Post*, 5/1/94; in Executive News Service, 5/1/94 (11448).

4/30/94

IAEA spokesman David Kyd says that the IAEA has cancelled the planned 5/1/94 departure of an inspection team for North Korea.

Joan Biskupic and R. Jeffrey Smith, *Washington Post*, 5/1/94; in Executive News Service, 5/1/94 (11448).

5/1/94

The IAEA sends a letter to North Korea demanding that it allow full inspections of the refueling of its 5 MW experimental reactor at Yongbyon.

Kyodo (Tokyo), 5/2/94; in JPRS-TND-94-011, 5/16/94, p. 44 (11415).

5/3/94

A North Korean Foreign Ministry spokesman characterizes the IAEA's desire to set aside and measure spent fuel from the 5 MW Yongbyon reactor as "unreasonable," adding that North Korea will allow "the observation of the fuel-rod replacement, containment and surveillance over all replaced fuel and other sufficient inspections needed for the maintenance of the continuity of safeguards." The spokesman says that fuel rod sampling "can never be allowed" because it ignores North Korea's "unique status" under the NPT. North Korea also indicates that an IAEA rejection of its inspection conditions would force it to refuel the reactor in the absence of international inspectors, although the fuel rods could be placed under IAEA control and measured following a resolution of the nuclear issue in a "package deal" with the U.S.

United Nations Security Council, annex to document S/1994/540, 5/5/94 (11415).

5/3/94

The IAEA receives a telex from North Korea which repeats North Korea's previous offer of limited inspections of the refueling of the Yongbyon reactor, but IAEA Director-General Hans Blix rejects the offer in a letter to North Korean Foreign Minister Kim Yong-nam.

Washington Times, 5/5/94, p. A12 (11415). YBSI Radio (South Korea), 5/4/94 (11415).

5/3/94

IAEA Director-General Hans Blix withdraws his previous demand that nuclear inspectors in North Korea be able to immediately take spent-fuel samples from the Yongbyon reactor, and calls instead for inspectors to be present during the refueling and for samples to be set aside under IAEA surveillance for future measurement.

Theresa Hitchens and Barbara Opall, *Defense News*, 5/9/94, pp. 3, 42 (11431).

5/6/94

An IAEA spokesman announces that the IAEA will not send inspectors to monitor the refueling of North Korea's 5 MW Yongbyon reactor because of North Korea's inadequate response to a 5/3/94 letter from the IAEA to North Korean Foreign Minister Kim Yong-nam which requested that inspectors be allowed to conduct testing during the refueling. Kim rejects Blix's demand that samples be set aside, but indicates that if a third-round of U.S.-North Korea talks takes place, then "all the routine and ad hoc inspection activities, including the selection and storage of some fuel rods as requested by your agency, would be possible."

Jan Krcmar, *Reuter*, 5/6/94; in *Executive News Service*, 5/9/94 (11417). Theresa Hitchens and Barbara Opall, *Defense News*, 5/9/94, pp. 3, 42 (11431).

5/10/94

In a telex to North Korea's Minister of Foreign Affairs, IAEA Director-General Hans Blix stresses the importance of IAEA inspectors being allowed to set aside fuel samples for future measurement during the refueling of North Korea's 5 MWe Yongbyon reactor. Blix invites North Korean representatives to Vienna to discuss the content and timing of such actions with the IAEA, and offers to send an inspection team to North Korea "in the next few days" to complete inspections at North Korea's reprocessing plant and to check seals and service cameras, on the condition that the reactor refueling be delayed.

United Nations Press Release, IAEA/1267, 5/11/94 (11449). AFP (Paris), 5/11/94; in JPRS-TND-94-012, 6/7/94, pp. 40-41 (11449).

5/11/94

IAEA spokesman David Kyd says that an inspection team will be sent to North Korea on 5/14/94 unless North Korea indicates that it has already begun refueling the Yongbyon reactor.

Steve Pagani, *Reuter*, 5/11/94; in *Executive News Service*, 5/11/94 (11449).

5/13/94

The IAEA announces that it will shortly send an inspection team to North Korea to service cameras and check safeguards seals

at the reprocessing plant and the Experimental Nuclear Power Plant at North Korea's Yongbyon nuclear complex. The IAEA statement also indicates that North Korea has agreed to conduct working-level talks with the IAEA regarding the oversight of the removal of fuel rods from the 5 MW experimental reactor, and adds that inspectors will verify that North Korea will allow the IAEA to set aside fuel rod samples for future measurement. North Korea has apparently agreed that IAEA inspectors will be allowed to measure radioactivity and look for radioactive particles at the Yongbyon reprocessing plant, but will not be able to sample "liquids from tanks used to dissolve spent fuel." In addition, the inspection team will not be allowed to inspect two suspected nuclear waste dumps at Yongbyon, nor will it be allowed to conduct formal inspections of the removal of spent fuel rods from the Yongbyon reactor.

United Nations Press Release, document IAEA/1268, 5/13/94 (11414). R. Jeffrey Smith, *Washington Post*, 5/14/94; in *Executive News Service*, 5/16/94 (11414).

5/13/94

Pak Yong-nam, the director of the North Korea Atomic Energy General Department, notifies IAEA Director-General Hans Blix that North Korea has begun replacing fuel rods at its 5 MW reactor at Yongbyon. Pak says the refueling is undertaken for safety reasons, and adds that North Korea might allow the IAEA to select and store fuel rods for future measurement, depending on the IAEA's attitude toward North Korea.

KBS-1 Radio Network (Seoul), 5/13/94; in JPRS-TND-94-012, 6/7/94, pp. 42-43 (11419). Yonhap (Seoul), 5/14/94; in JPRS-TND-94-012, p. 44 (11419).

5/17/94

A team of three IAEA inspectors led by Olli Heinonen arrives in Pyongyang. The team is to cancel the inspections and leave North Korea earlier than planned if it discovers that fuel rods from the reactor core at Yongbyon have been removed and replaced. A North Korean diplomat in Vienna denies that North Korea has begun removing fuel rods from the reactor, contradicting earlier reports. The official says, "We do not know if any fuel rods have been replaced...but it

is probably preparatory work." The official adds that the refueling process will take two months.

Reuter, 5/17/94; in *Executive News Service*, 5/17/94 (11418). KBS-1 Radio Network (Seoul), 5/15/94; in JPRS-TND-94-012, 6/7/94, p. 41 (11414). Steve Pagani, *Reuter*, 5/17/94; in *Executive News Service*, 5/17/94 (11456).

5/19/94

U.S. President Bill Clinton reports that he was told earlier in the day that IAEA inspectors were monitoring the refueling process in Yongbyon. The inspection team reports to the IAEA that some fuel rods were removed from the reactor prior to the team's arrival. A South Korean government official said that 10 to 15 percent of the plant's 8,100 fuel rods were removed without IAEA supervision.

Reuter, 5/19/94; in *Executive News Service*, 5/19/94 (11456). *Washington Post*, 5/22/94, p. A29 (11454). *Reuter*, 5/23/94; in *Executive News Service*, 5/23/94 (11454). *Reuter*, 5/25/94; in *Executive News Service*, 5/25/94 (11454).

5/21/94

North Korea sends the IAEA a telex noting its "readiness to receive an Agency consultation team" to discuss the refuelling of its 5 MW reactor at Yongbyon.

Michael R. Gordon, *New York Times*, 5/22/94, p. A8 (11454).

5/25/94

A four-person IAEA team led by Dimitri Perricos begins talks with North Korea in Pyongyang regarding how the Agency can inspect the spent fuel rods removed from the 5 MW reactor at Yongbyon in order to determine whether fuel was diverted during the reactor's shutdown in 1989.

Jan Krcmar, *Reuter*, 5/25/94; in *Executive News Service*, 5/25/94 (11454).

5/27/94

IAEA Director-General Hans Blix tells the U.N. Security Council that the IAEA may not be able to measure the plutonium from North Korea's 5 MW Yongbyon reactor because North Korea is removing spent fuel from the reactor too quickly. Blix says that more than 3,000 of the rods had been removed "in a pattern that has precluded the agency's ability to implement the full range of safeguards measures required." Blix says

that talks with North Korea on monitoring the removal of the fuel rods have failed.

Sang Hun-choe, *Washington Post*, 5/29/94, p. A49 (11452). Michael R. Gordon, *New York Times*, 5/28/94, p. 3 (11452).

5/28/94

An IAEA inspection team leaves North Korea after North Korea rejects proposals for monitoring the refueling of the 5 MW Yongbyon reactor. Two inspectors will remain in North Korea to monitor future developments.

Washington Times, 5/29/94, p. A1 (11452).

5/31/94

The U.N. Security Council asks North Korea to cooperate in allowing IAEA inspections after North Korea rejects the IAEA's proposals to monitor the refueling of the 5 MW Yongbyon reactor. The IAEA proposes either the closure of the plant or the tagging of some 300 fuel rods to test for diversion of plutonium by North Korea.

Evelyn Leopold, *Reuter*, 5/31/94; in *Executive News Service*, 5/31/94 (11453). Evelyn Leopold, *Reuter*, 5/30/94; in *Executive News Service*, 5/30/94 (11453).

NORTH KOREA WITH INDONESIA

4/94

A North Korean envoy requests that Indonesian President Thohib Suharto act as a mediator between North Korea, the U.S. and the U.S.'s Asian allies in the conflict over the North Korean nuclear issue. The North Korean envoy gives Suharto a letter from North Korean leader Kim Il-sung indicating that Pyongyang will allow inspection of suspected nuclear-weapons sites.

B. Opall and N. Usui, *Defense News*, 4/11/94-4/17/94, p. 14 (11252).

NORTH KOREA WITH IRAN

2/94

Major General Mohsen Rezaie, the commander of Iran's Islamic Revolution Guards Corps, states that Iran will not allow North Korea or any other country to use Iran as a testing ground for nuclear weapons.

Reuter, 2/24/94; in *Executive News Service*, 2/24/94 (11011).

Mid-2/94

A North Korean delegation composed of 29 experts in military technology returns from a "long visit" to Iran, during which the experts sign an agreement on military and nuclear cooperation, according to the Arab weekly *Al-Watan Al-'Arabi*. The delegation is led by North Korean Air Force commander Cho Myong-nok. Diplomatic sources believe that the North Koreans visited military and nuclear facilities in Iran.

KBS-1 Radio Network (Seoul), 2/24/94; in *JPRS-TND-94-007*, 3/23/94, pp. 27-28 (11059). *Washington Times*, 2/25/94 (11059).

NORTH KOREA WITH JAPAN

2/22/94

Former Japanese Foreign Minister Michio Watanabe encourages the Japanese government to strictly enforce Japan's "laws to prohibit the outflow of high-technology products to North Korea." Watanabe says that North Koreans residing in Japan may be smuggling high-technology items to North Korea via ferry from the port of Niigata, and cites incidents where North Korean residents, "working to arrange the weekly charter voyages, have been in charge of checking cargo contents, opening up the possibility for violations of COCOM." Watanabe's comments follow raids carried out by the police in 1/94 "on trading houses and makers of high-technology products" which were thought to have exported technology regulated under COCOM, such as spectrum analyzers, to North Korea.

UPI, 2/22/94; in *Executive News Service*, 2/22/94 (11355). *Reuter*, 2/22/94; in *Executive News Service*, 2/22/94 (11355).

4/4/94

It is reported that Chongryun, the secretive General Association of Korean Residents in Japan, is using Japanese front companies to buy equipment for North Korea's missile and nuclear programs, according to Japanese intelligence sources. Chongryun is the sponsor of the passenger-cargo ship that carries high-tech goods, including high-powered computers, to North Korea from Japan's port of Niigata.

Edward W. Desmond, *Time*, 4/4/94, pp. 24-25 (11460).

5/19/94

The Japanese Finance Ministry says that some Japanese banks have voluntarily halted sending dollars to the DPRK due to the increasing sensitivity to claims that the money may be helping the DPRK to fund its nuclear program. As of the beginning of 1994, Ashikaga Bank in Japan had stopped remitting dollars from other Japanese banks to North Korea. However, a Japanese finance official says that "remittance of money in yen and marks is still carried out." According to Japanese officials, the U.S. requested that Tokyo regulate the remittances, since it fears part of the money is used to fund North Korea's nuclear program.

Michio Nakamoto, *Financial Times*, 5/20/94 (11253).

NORTH KOREA WITH PRC

1/94

Chinese officials tell a visiting delegation from the U.S. War College that "North Korea may already possess nuclear arms." China "now virtually recognizes" the fact the North Korea possesses nuclear weapons based on tips received from North Korean officials.

Yonhap (Seoul), 2/19/94; in *JPRS-TND-94-006*, 3/16/94, p. 12 (11060).

Early 4/94

North Korean President Kim Il-sung cancels his journey to China due to China's support for a U.N. statement urging North Korea to permit further IAEA inspections of its seven declared nuclear facilities. President Kim and President Jiang Zemin of China were expected to meet in China in 5/94 to improve relations between the two countries.

Bruce Cheesman, *Times* (London), 4/8/94, p. 3 (11258).

4/13/94

Wu Xueqian, the deputy head of the Chinese Communist Party's Central Foreign Affairs Leading Group, indicates that the PRC favors dialogue as the only way to resolve the dispute with North Korea, and says that enacting sanctions or other pressure will "only complicate the problem."

Martin Sieff, *Washington Times*, 4/14/94, p. A14 (11262).

NORTH KOREA WITH RUSSIA AND PRC

1/94

The Japanese Weekly *Shukan Bunshin* publishes a story which alleges that Russian scientists have been deeply involved in North Korea's nuclear program. The story is reportedly based on a Russian classified report, 001 SM-137, dated 10/22/93, which was prepared by the Center for Military-Strategic Analysis under the Russian Ministry of Defense's General Staff on "The Russian Federation's Military Policy in the Asian-Pacific Region Under New Military-Political Conditions." *Shukan Bunshin* also interviewed an unspecified Russian "leader," who participated in preparing the report. The report and the "leader" attribute the successful progress of North Korea's nuclear and missile programs to aid received from Russia and China. With the help of Russian scientists and technologies, North Korea has amassed 10 to 12 kg of U-235 and 20 kg of Pu-239, according to the report. Over the past few years almost 160 Russian nuclear scientists and missile experts have visited North Korea, and currently nine nuclear scientists and seventeen missile specialists are there, the report states. Some of the scientists have become North Korean citizens. Quoting Russian nuclear scientists who have just returned from North Korea, the report states that one or two warheads have been assembled and several more will be completed by the end of 1994. Col. Gen. Mikhail Kolesnikov, Chief of the Russian Ministry of Defense's General Staff, however, said the report was falsified—the document numbers and designators are incorrect, he said, and there is no Center for Military-Strategic Analysis.

Izvestiya, 1/27/94, pp. 1, 4 (11335). *Izvestiya*, 1/29/94, p. 3 (11335).

NORTH KOREA WITH RUSSIA

2/14/94

Vladimir Kumachev, an adviser to the director of Russia's Institute of National Security and Strategic Research, says that Russia maintains about "15 [nuclear] experts in North Korea" who work solely in the civilian nuclear industry sector, so as "to moni-

tor its nuclear program." While the Russian specialists "do not have access to all the essential information [on North Korea's nuclear program], they file regular reports on their activities to the IAEA."

AFP (Seoul), 2/14/94; in JPRS-TND-94-006, 3/16/94, pp. 11-12 (11444).

3/24/94

Russia proposes a multilateral conference to address growing tensions surrounding the North Korean nuclear issue. Participants would include China, Japan, North and South Korea, Russia, and the United States.

Fred Hiatt, *Washington Post*, 3/25/94; in Executive News Service, 3/25/94 (11482). U.N. Security Council document, S/1994/340, 3/24/94 (11482).

NORTH KOREA WITH RUSSIA AND UNITED STATES

4/1/94

North Korea declines a Russian proposal to resolve the issue of nuclear inspections in North Korea at a world conference, and calls on Russia to "exert its influence on" the U.S. to resolve the nuclear issue. North Korea's Foreign Ministry states that the nuclear inspection issue can be settled only in direct talks with the U.S.

Roger Crabb, Reuter, 3/31/94; in Executive News Service, 4/1/94 (11435).

NORTH KOREA WITH SOUTH KOREA

3/1/94

North Korea's chief delegate to inter-Korean talks, Park Yong-su, announces that the North would be willing to have a working-level contact with South Korea on 3/3/94 in order to discuss the exchange of special envoys on the nuclear issue. The meeting will be the fourth round of border talks on the envoy exchange and the first official contact between the two Koreas since 11/93.

Lee Su-wan, Reuter, 3/1/94; in Executive News Service, 3/1/94 (11464).

3/3/94

North and South Korea begin border talks at Panmunjom to discuss exchanging special envoys, and South Korea announces that it is suspending the joint U.S.-South Ko-

rean Team Spirit military exercises. The suspension is contingent upon North Korea allowing the IAEA to complete inspections currently underway.

Michael R. Gordon, *New York Times*, 3/3/94, p. A3 (11464).

3/9/94

At a second session of working-level talks in Panmunjom between North and South Korean delegates, North Korea issues a draft agreement to the South calling for the exchange of special envoys. The delegates make no further progress on the exchange of envoys but agree to meet again on 3/12/94.

Lee Su-wan, Reuter, 3/10/94; in Executive News Service, 3/10/94 (11480). AFP; in *International Herald Tribune*, 3/10/94 (11464).

3/12/94

At the third round of inter-Korean talks, North and South Korea made little progress, but South Korean chief delegate Song Young-dae indicates that North Korea has softened its conditions for the exchange of envoys to take place.

Kim Myong-hwan, Reuter, 3/12/94; in Executive News Service, 3/15/94 (11443).

3/16/94

North and South Korea fail to make any progress in the fourth round of inter-Korean talks, according to South Korea's chief delegate Song Young-dae.

Yun Suk-bong, Reuter, 3/16/94; in Executive News Service, 3/16/94 (11443).

3/19/94

Inter-Korean talks on the proposed exchange of envoys to discuss the nuclear issue break down when the North Korean delegation walks out of the meeting. The officials do not set a date for a further meeting.

Washington Times, 3/19/94, p.A9 (11481).

4/7/94

South Korean President Kim Young-sam establishes a crisis unit of senior cabinet ministers to handle the nuclear threat from North Korea. The unification minister will chair the council, which will consist of foreign and defense ministers, the internal intelligence agency director, the chief presidential Secretary, and other presidential aides.

Shim Sung-won, *Reuter*, 4/7/94; in *Executive News Service*, 4/7/94 (11254).

4/15/94

Lee Yung-duk, South Korea's Unification Minister, says that South Korea has dropped its demand for an exchange of envoys with North Korea to resolve the issue of nuclear inspections. Lee also indicates that South Korea favors continuing dialogue "for mutual and simultaneous inspections of each other's nuclear facilities" within the framework of the Joint Nuclear Control Commission, which has been moribund since the 1991 joint declaration for the denuclearization of the Korean Peninsula.

Lee Su-wan, *Reuter*, 4/15/94; in *Executive News Service*, 4/15/94 (11412). Shim Jae Hoon, *Far Eastern Economic Review*, 4/28/94 (11412).

NORTH KOREA WITH SOUTH KOREA AND UNITED STATES

4/1/94

South Korean Defense Minister Han Sung-joo says that the U.S. and South Korea will delay their decision on whether or not to conduct their joint Team Spirit military exercises in order to give North Korea sufficient time to respond to a 3/31/94 U.N. Security Council statement which calls on North Korea to allow inspections of its nuclear facilities.

Art Pine, *Los Angeles Times*, 4/2/94, p. A10 (11352). Michael R. Gordon, *New York Times*, 4/2/94, p. 3 (11352).

4/18/94

U.S. Assistant Secretary of State Robert Gallucci and Kim Sam-hoon of South Korea agree that the U.S. will not hold high-level talks with North Korea unless it consents to complete nuclear inspections by early 5/94. Although they resolve not to make U.S.-North Korean talks contingent upon the exchange of envoys between North and South Korea, the U.S. and South Korea agree that a failure by North Korea to accept inspections should lead the U.N. Security Council to consider sanctions against it.

John Burton, *Financial Times*, 4/19/94, p. 4 (11265). *Nihonkeizai Shimbun*, 4/19/94 (11265).

NORTH KOREA WITH UNITED KINGDOM

4/94

It is reported that U.K. vice-chancellors rejected a secret government proposal that would exclude students and researchers from countries such as Iran, Iraq, North Korea, China, and Libya from working at British universities in fields of study that could be useful in the development of nuclear weapons.

Ngaio Crequer, *Independent*, 4/25/94 (11486).

NORTH KOREA WITH UNITED STATES

1/27/94-2/1/94

U.S. evangelist Billy Graham visits North Korea and conveys a message from U.S. President Bill Clinton to North Korean leader Kim Il-sung. Graham will deliver Kim's response to Clinton on 2/4/94.

Reuter, 2/3/94; in *Executive News Service*, 2/3/94 (11058). *Yomiuri Shimbun*, 2/4/94 (11058).

1/31/94

A North Korean Foreign Ministry spokesperson issues a statement denouncing the U.S. for going back on its original agreement to a package solution to the nuclear issue in late 1993 and for trying to pressure North Korea into accepting full-scope inspections. North Korea claims that in late 1993, it and the U.S. agreed to conditions for holding a third round of high-level talks in which the U.S. would cancel Team Spirit exercises for 1994 and North Korea would accept "limited" IAEA inspections of its nuclear facilities.

KCNA (Pyongyang), 1/31/94; in *Executive News Service*, 2/1/94 (11445).

2/94

U.S. Undersecretary of State for International Security Affairs Lynn Davis says that the U.S. will press the Coordinating Committee for Multilateral Export Controls' successor regime, which will be formed once COCOM is dissolved on 3/31/94, to halt transfers of dual-use and military technology to Iran, Iraq, North Korea, and Libya.

Philip Finnegan and Theresa Hitchens, *Defense News*, 2/28/94-3/6/94, p. 6 (11012).

2/2/94

U.S. Defense Secretary-designate William Perry says that it is important to stop North Korea from starting production of "a dozen or more ... nuclear weapons in the next few years." Perry also states that it is important for the U.S. to gain China's support in placing economic sanctions on North Korea.

Bill Gertz, *Washington Times*, 2/3/94, pp. A1, A18 (11356). Thomas E. Ricks, *Wall Street Journal*, 2/3/94, p. A5 (11356). *International Herald Tribune*, 2/3/94 (11356). Ruppert Cornwell, *Independent*, 2/3/94 (11356).

2/2/94

U.S. Senators approve two amendments calling for international sanctions against North Korea and the resumption of a U.S. nuclear presence in South Korea.

Thomas E. Ricks, *Wall Street Journal*, 2/3/94, p. A5 (11356).

2/7/94

South Korean Foreign Ministry officials say that North Korean President Kim Il-sung's recent message to U.S. President Bill Clinton expresses the hope that relations between the U.S. and North Korea will be strengthened and assures Clinton that North Korea will not develop nuclear weapons.

Nihonkeizai Shimbun, 2/8/94 (11058).

2/7/94

U.S. Undersecretary of State for International Security Affairs Lynn Davis says that the U.S. will press the Coordinating Committee for Multilateral Export Controls' successor regime, which will be formed once COCOM is dissolved on 3/31/94, to halt transfers of dual-use and military technology to Iran, Iraq, North Korea, and Libya.

Philip Finnegan and Theresa Hitchens, *Defense News*, 2/28/94-3/6/94, p. 6 (11012).

2/8/94

CIA Director James Woolsey cautions that the North Koreans "may decide to shut down their Yongbyon reactor soon, enabling them to extract fuel, reprocess, recover the plutonium and use it to produce weapons."

Steve Pagani, *Reuter*, 2/9/94; in *Executive News Service*, 2/9/94 (11354). Jim Wolf, *Reuter*, 2/8/94; in *Executive News Service*, 2/9/94 (11437).

2/9/94

Choe Han-chun, the counsellor at the North Korean embassy in Beijing, denies U.S. CIA Director Woolsey's assertion that North Korea will soon shut down its Yongbyon reactor.

Steve Pagani, Reuter, 2/9/94; in Executive News Service, 2/9/94 (11354).

2/25/94

The U.S. and North Korea agree on the terms to allow IAEA inspections of North Korea's nuclear facilities. The agreement stipulates that once IAEA inspections begin on 3/1/94, the U.S. will announce the date for the third round of high-level U.S.-DPRK talks. The U.S. also agrees to make an announcement concerning the status of Team Spirit exercises with South Korea once inspections commence, and North Korea agrees to resume talks with South Korea over a presidential envoy exchange. The U.S. adds that the final decision on Team Spirit exercises and a third round of talks will depend upon whether IAEA inspections are "fully implemented" and on whether an exchange of envoys takes place.

Reuter Transcript Report; in Executive News Service, 2/26/94 (11462).

3/1/94

The U.S. announces that it has agreed to hold a third round of high-level talks with North Korea on the nuclear issue in Geneva on 3/21/94. The two countries also agree to take three other steps which are preconditions to the implementation of the agreement: 1) the U.S. agrees with South Korea's decision to suspend Team Spirit joint military exercise; 2) North Korea will allow the IAEA inspections to begin and be completed within the time period agreed on with the IAEA on 2/15/94; 3) North and South Korea will resume working-level talks on the exchange of special envoys.

U.S. Department of State Dispatch, 3/14/94, p. 151 (11483).

3/3/94

U.S. State Department spokesman Michael McCurry announces that, in light of the arrival of an IAEA inspection team in North Korea and the resumption of inter-Korean

contacts, the U.S. will hold a third round of talks with North Korea on 3/21/94 in Geneva, Switzerland.

U.S. Department of State Dispatch, 3/14/94, p. 151 (11483).

3/7/94

It is reported that the U.S. will maintain its ban on the export of nuclear balance of plant equipment to Libya, Cambodia, Cuba, North Korea and Vietnam.

Daniel Kaplan, *Energy Daily*, 3/7/94 (11031).

3/16/94

The U.S. calls off high-level talks with North Korea, scheduled for 3/21/94, due to North Korea's recent blockage of full IAEA inspections at the reprocessing plant at its Yongbyon nuclear facility.

Michael R. Gordon, *New York Times*, 3/17/94, pp. A1, A6 (11463).

Late 3/94

North Korean Vice Foreign Minister Kang Sok-ju, in a letter to U.S. Assistant Secretary of State Robert Gallucci, offers to open North Korean facilities to new nuclear inspections if the U.S. drops its demand that North and South Korea exchange envoys to discuss the North Korean nuclear issue.

Washington Times, 4/7/94, p. A13 (11411).

4/3/94

U.S. Defense Secretary William Perry warns North Korea to stop its nuclear weapons program within six months or face "substantial pressures," including economic sanctions. Perry does not rule out the possibility of a future preemptive U.S. military strike on North Korean nuclear installations, but emphasizes that the U.S. will not start a war with North Korea.

Don Phillips, *Washington Post*, 4/4/94 (11430).

4/5/94

U.S. State Department spokesman Mike McCurry indicates that the U.S. will only offer a third round of high-level talks with North Korea if North and South Korea exchange envoys and if North Korea allows the completion of IAEA inspections of its nuclear facilities.

Washington Times, 4/7/94, p. A13 (11411).

4/7/94

U.S. Assistant Defense Secretary for International Security Affairs Ashton Carter calls North Korea's nuclear reactors "bomb-making facilities" that cannot be used for power generation or other peaceful purposes, and indicates that the U.S. favors the removal of all nuclear technology from North Korea. The U.S. fears that North Korea's acquisition of nuclear weapons could "corrode" anti-proliferation efforts in the region and could open the door to North Korean exports of nuclear materials and weapons.

Bill Gertz, *Washington Times*, 4/8/94, p. A3 (11410). *Aerospace Daily*, 4/11/94, p. 55 (11410).

4/14/94

It is reported that North Korea has recently asked the U.S. to resume unofficial talks on the North's suspected development of nuclear weapons and refusal to allow IAEA nuclear inspections.

Chong Hae-yong, *Choson Ilbo*, 4/14/94, p. 2; in JPRS-TND-94-010, 5/5/94, p. 44 (11262).

4/22/94

U.S. Defense Secretary William Perry says that if North Korea does not allow IAEA inspection of the planned retrieval of spent nuclear fuel from its 5 MW nuclear reactor at Yongbyon, then the U.S. will "request the U.N. to impose sanctions" on North Korea as soon as 5/94. Perry adds that if the U.N. does not agree to sanctions, then the U.S., along with Japan, South Korea, and other nations, "would...seek a way of imposing some sort of multinational sanctions" on North Korea. U.S. officials believe that the spent fuel contains enough plutonium to yield another four or five nuclear weapons, in addition to the one or two bombs North Korea is already suspected of having. However, Perry thinks that North Korea could generate up to 12 nuclear weapons a year if left uninspected. Perry further warns that due to North Korea's "history of exporting missiles, if North Korea develops nuclear weapons, we face the danger that other hostile regimes around the world will soon have them also."

R. Jeffrey Smith, *Washington Post*, 4/23/94; in Executive News Service, 4/23/94 (11260). Terry McCarthy, *Independent* (London), 4/23/94 (11260).

4/28/94

During a closed working-level meeting between the U.S. and North Korea, the U.S. gives a letter from Assistant Secretary for Political and Military Affairs Robert Gallucci to the North Korean delegation. The letter suggests restarting dialogue between the two countries through the resumption of high-level talks, the suspension of joint U.S.-South Korean military exercises, the initiation of talks between North and South Korea, and the completion of IAEA inspections in North Korea.

Douglas Busvine, *Reuter*, 4/29/94; in *Executive News Service*, 4/29/94 (11428). Yonhap (Seoul), 4/29/94; in JPRS-TND-94-011, 5/16/94, pp. 47-48 (11451).

5/3/94

Senior Clinton Administration officials say that the U.S. will offer improved economic and political ties to North Korea if it allows full inspections of its nuclear program.

Robert Kearns, *Reuter*, 5/3/94; in *Executive News Service*, 5/3/94 (11431).

5/5/94

The U.S. Department of State receives a letter from North Korea which suggests that IAEA inspections of the refueling of North Korea's 5 MW Yongbyon reactor and the third round of high-level U.S.-North Korean talks should take place simultaneously.

Asahi Shimbun, 5/7/94 (11431).

5/10/94

The U.S. and North Korea hold working-level meetings to discuss North Korea's nuclear program, during which the U.S. asks North Korea to delay changing fuel rods in its 5 MW Yongbyon reactor. Reports indicate that North Korea backs off from its threat to replace the fuel rods without international inspectors present.

AFP; in *International Herald Tribune*, 5/11/94 (11416).

5/12/94

The U.S. and North Korea hold a "chief and counselor-level" working meeting in New York to talk about additional nuclear inspections in North Korea and the schedule for a third round of high-level talks between the two countries. The U.S. is represented by Gary Samore, the deputy director in the

office of regional non-proliferation, while his North Korean counterpart is Han Songryol, counsellor at North Korea's U.N. mission. The U.S. emphasizes that the scheduling of the third-round talks will depend upon the progress of inspections at North Korean nuclear facilities, although North Korea seeks to expedite the talks in light of its agreement to allow additional and regular inspections of its facilities. The two countries agree to let the IAEA and North Korea work out the inspection of fuel rods, and agreed to hold more working-level meetings in mid-5/94 to discuss the third round of high-level talks.

Reuter, 5/13/94; in *Executive News Service*, 5/16/94 (11416). KBS-1 Radio Network (Seoul), 5/12/94; in JPRS-TND-94-012, 6/7/94, p. 42 (11416).

5/15/94

U.S. officials say that the U.S. will wait for the results of an IAEA inspection of North Korean nuclear facilities before taking actions in response to North Korea's unloading of spent fuel from its 5 MW reactor at Yongbyon. U.S. Senators George Mitchell and Robert Dole express support for sanctions against North Korea.

Eric Schmitt, *New York Times*, 5/16/94, pp. A1, A3 (11418). *International Herald Tribune*, 5/16/94, pp. 1, 6 (11418).

5/16/94

A U.S. official says that North Korea will cross a "red line" if it withdraws fuel from the Yongbyon reactor in the absence of international inspectors, adding that depending on North Korean actions, the U.S. may restart high-level talks with North Korea or seek sanctions at the U.N.

Stewart Stogel, *New York Times*, 5/17/94, p. A11 (11418). Carol Giacomo, *Reuter*, 5/16/94; in *Executive News Service*, 5/17/94 (11418).

5/20/94

U.S. officials decide that the U.S. will resume high-level talks with North Korea since it has met crucial U.S. demands regarding the inspection of its nuclear facilities. The decision is made after the IAEA tells the U.S. that North Korea has not diverted the spent fuel removed from the 5 MW Yongbyon reactor for weapons use.

Michael R. Gordon, *New York Times*, 5/21/94, pp. 1,4 (11457).

PAKISTAN

PAKISTAN WITH CANADA AND IAEA

10/93-12/93

Under the supervision of the IAEA, Pakistan conducts a fuel channel safety inspection of its Kanupp nuclear power plant in cooperation with Atomic Energy of Canada, which supplied the plant to Pakistan.

PINSTECH Pakistan; in *ENS NucNet*, 2/17/94 (11079).

PAKISTAN WITH FRANCE

2/20/94

The Pakistani prime minister's special assistant on economic affairs, Shahid Hasan, states that Pakistan is considering "at the highest level" a French offer to revive an agreement signed during the previous Pakistan People's Party government, whereby France would supply Pakistan with a nuclear power plant.

Radio Pakistan Network (Islamabad), 2/21/94; in JPRS-TND-94-006, 3/16/94, p. 60 (11033).

PAKISTAN WITH INDIA, PRC, AND UNITED STATES

2/16/94

Western diplomats announce that delegations from Pakistan and India, headed by former army chiefs, will engage in unofficial discussions the following week in China and that U.S. and Chinese nuclear officials will also be present at the talks. Diplomats say that India is exhibiting a seldom-seen flexibility on the nuclear issue by deciding to participate in the talks.

Jawed Naqvi, *Reuter*, 2/16/94; in *Executive News Service*, 2/16/94 (11090).

PAKISTAN WITH IRAN

4/94

During a visit to Pakistan, Iranian Parliament Speaker Ali Nategh Noori denies Western media reports that he held talks with Pakistani officials concerning cooperation between Iran and Pakistan in the field of nuclear technology. Some U.S. officials claim that Iran is trying to purchase weapons technology from Pakistan.

Nucleonics Week, 4/21/94, pp. 14-15 (11149).

PAKISTAN WITH PRC

4/20/94

The China National Nuclear Corporation (CNNC) begins training 60 Pakistani engineers and technicians at its post-graduate school in the areas of nuclear power plant operation and maintenance, as agreed to in the contract under which it is providing the 300 MW Chashma plant to Pakistan. At the conclusion of the course, the trainees will receive hands-on instruction at China's Qinshan plant, which has the same design as the Chashma plant.

Xinhua (Beijing), 4/20/94; in JPRS-TND-94-011, 5/16/94, p. 49 (11025).

5/94

China National Nuclear Corporation President Jiang Xinxiong says that Chinese exports of nuclear power generation equipment are doing well, citing current discussions with Pakistan regarding a second 300 MWe unit at Chasma.

Nuclear Engineering International, 5/94, p. 8 (11019).

PAKISTAN WITH SOUTH AFRICA

5/94

It is reported that Pakistan had approached South African firms for "process control equipment for heavy water technology," but the government blocked the sale.

David Albright, *ISIS Report*, 5/94, pp. 17-19 (11477).

PAKISTAN WITH UNITED STATES

2/3/94

The Clinton administration submits to the U.S. House of Representatives a foreign aid bill which retains the conditions imposed by the country-specific Pressler and Glenn-Symington Amendments, both of which target Pakistan's nuclear weapons program. A few weeks earlier, the Clinton administration had sought to remove the Pressler Amendment as a means of gaining greater legislative flexibility, but in the face of congressional objections decided not to press the issue.

C. Raja, *Hindu (International Edition)*, 2/12/94, p.3 (11077).

2/1/94-2/3/94

A five-member delegation from the U.S. Arms Control and Disarmament Agency (ACDA), led by acting director Tom Graham, visits Pakistan to participate in discussions with Pakistani officials regarding the Pakistani nuclear program. A U.S. Embassy spokesman says the ACDA team, which is expected to call on Pakistan to join the Conference on Disarmament, may bring up the question of Pakistan joining the comprehensive test ban treaty. U.S. officials have stated that the U.S. position regarding Pakistan's nuclear program remains unchanged, but have emphasized that the U.S. seeks to halt the proliferation of nuclear weapons in South Asia without favoring either India or Pakistan.

Anwar Iqbal, UPI, 1/31/94; in Executive News Service, 1/31/94 (11081).

3/22/94

U.S. Undersecretary of State Lynn E. Davis reveals a U.S. proposal whereby the U.S. would proceed with the sale of 38 F-16 fighter planes to Pakistan if Pakistan could provide proof that it has frozen its nuclear weapons program.

R. Jeffrey Smith, *Washington Post*, 3/23/94, p. A27 (11291).

3/29/94

U.S. Deputy Secretary of State Strobe Talbott and Pakistan's ambassador in Washington, D.C., Maleeha Lodhi, discuss the possibility of convening an international conference on nuclear nonproliferation in South Asia.

Anwar Iqbal, UPI, 3/31/94; in Executive News Service, 3/31/94 (11286).

4/9/94-4/10/94

U.S. Deputy Secretary of State Strobe Talbott states that talks with Pakistani diplomats concerning Pakistan's nuclear program have been good thus far but that more work remains to be done. Talbott hopes to convince Pakistan to allow a verifiable cap of its nuclear program in exchange for a one-time waiver of the Pressler Amendment which would allow the U.S. to deliver 38 F-16 aircraft. Prime Minister Benazir Bhutto announced shortly before Talbott's arrival that, "if we are unilaterally pressed for the capping, it will be discriminatory and Pakistan will not agree to it." The U.S. and Pakistan issue a joint communique which states, "the two sides agreed to proceed with further consideration of the U.S. initiative with a view to developing an approach acceptable to both the U.S. and Pakistan".

Jane Macartney, *Washington Times*, 4/10/94, p. A14 (11287).

5/94

Pakistan's opposition parties urge Prime Minister Benazir Bhutto to resign after Foreign Minister Sardar Assaf announced that Pakistan may allow the U.S. to conduct non-intrusive inspections of Pakistan's nuclear facilities. Pakistan's foreign office later stated that Pakistan will only accept such a proposal if the inspections would apply to India as well.

Anwar Iqbal, UPI, 5/20/94; in Executive News Service, 5/20/94 (11295).

5/18/94

Pakistani Foreign Minister Sardar Assef Ali says that Pakistan would be willing to permit U.S. inspections of its nuclear facilities. Ali says, "Pakistan is ready to consider any U.S. proposal for non-intrusive means to verify that our nuclear program is not weapons orientated." However, while Pakistan would not agree to physical inspection of its Kahuta nuclear facility, Ali says, "we expect Washington to give the President technical proposals as to how external verification could take place to satisfy the U.S. administration and Congress." According to sources, possible methods of exter-

nal verification could include "Pakistani help in enhancing satellite observations of Kahuta, and perhaps allowing monitoring equipment in Kahuta."

Ahmed Rashid, *Daily Telegraph*, 5/24/94 (11080).

PEOPLE'S REPUBLIC OF CHINA

INTERNAL DEVELOPMENTS

3/10/94

While addressing the National Assembly, Chinese Prime Minister Li Peng says that China supports the comprehensive test ban (CTBT), but adds that Chinese accession would be conditional upon the nuclear weapons states agreeing to a no first-strike treaty.

Mainichi Shimbun, 3/11/94 (11095).

3/18/94

A Chinese foreign ministry spokesman says that China has "noted" U.S. President Bill Clinton's 3/15/94 announcement that the U.S. would push the expiration date of its moratorium on nuclear testing from 9/30/94 to 9/30/95, but gives no indication that China will halt its nuclear testing program.

Frank J. Murray, *Washington Times*, 3/16/94, p. A4 (11095). Reuter, 3/18/94; in Executive News Service, 3/17/94 (11095).

3/23/94

In a report written by Robert S. Norris for the National Resources Defense Council (NRDC), it is estimated that China has about 450 nuclear weapons, including 300 strategic weapons, with the remainder comprised of artillery shells and other battlefield nuclear weapons.

R. Jeffrey Smith, *Washington Post*, 3/24/94, p. A22 (11494).

3/24/94

Chinese Ambassador to the U.N. Disarmament Commission Hou Zhitong says that on 12/23/93, China had proposed to the U.S. and Russia that the five nuclear powers be-

gin negotiations on a "Treaty on the Non-First-Use of Nuclear Weapons," and that China had renewed its calls for action on the matter in 3/94.

Gao Jianxin, Xinhua (Beijing), 4/20/94; in JPRS-TND-94-011, 5/16/94, p. 1 (11024). Xinhua (Beijing), 3/25/94; in JPRS-TND-94-008, 4/1/94, p. 5 (11023).

3/30/94

The chairman of the U.N. Conference on Disarmament's special committee for a comprehensive test ban, Miguel Marin-Bosch, says the PRC appears to be preparing to carry out another underground nuclear test.

Reuter, 3/31/94; in Executive News Service, 3/31/94 (11082).

3/31/94

A Chinese Foreign Ministry spokeswoman denies knowledge of reported Chinese preparations for a nuclear test.

Reuter, 3/31/94; in Executive News Service, 3/31/94 (11082).

Early 4/94

China begins producing nuclear fuel at its Yibin Nuclear Fuel Package Plant. The Yibin plant will provide nuclear fuel to China's Daya Bay nuclear power plant. French experts conducted project construction appraisal for the Yibin fuel fabrication plant.

Sichuan People's Radio Network (Chengdu), 4/11/94; in JPRS-TND-94-010, 5/5/94, p. 1 (11026).

4/19/94

Chinese Ambassador to the U.N. Disarmament Commission Hou Zhitong says that the time has arrived for the five nuclear powers to sign an agreement forswearing the use of, or threats to use, nuclear weapons against non-nuclear weapon states and the first use of nuclear weapons against one another. Hou added that a comprehensive test ban treaty (CTBT) should incorporate prohibitions on first use of nuclear weapons against fellow signatory states with nuclear weapons and on the use and threats to use nuclear weapons against non-nuclear signatory states.

Gao Jianxin, Xinhua (Beijing), 4/20/94; in JPRS-TND-94-011, 5/16/94, p. 1 (11024). Xinhua (Beijing), 3/25/94; in JPRS-TND-94-008, 4/1/94, p. 5 (11023).

4/27/94

Chinese Premier Li Peng, addressing reporters in Kazakhstan, says that "the Chinese Government holds that it is of positive significance to reach a pact on a complete nuclear test ban through negotiations" and notes that China is "positively participating in negotiations" on a comprehensive test ban treaty (CTBT) at the Geneva Conference on Disarmament. Li reiterates China's position supporting a nuclear test ban in the context of a complete ban on, and thorough destruction of, nuclear weapons, and agreements on the non-first use or threat of use of nuclear weapons.

Xinhua (Beijing), 4/27/94; in JPRS-TND-94-011, 5/16/94, p. 1 (11087).

4/27/94

A U.S. official says that based on activity observed at the Lop Nor test site, it is evident that China is preparing for another nuclear test, to be carried out possibly by late 5/94.

Arms Control Today, 6/94, p. 31 (11088).

5/3/94

A Chinese Foreign Ministry spokesman, emphasizing the limited number of China's nuclear tests and China's "attitude of utmost restraint" regarding such tests, says "I am not aware of any nuclear test in the near future." However, on 5/2/94, Japanese Deputy Foreign Minister Kunihiko Saito said that China was preparing for a nuclear test and urged China to call it off. Chinese officials have indicated privately that China will conduct five or six more nuclear tests before 1996, when it says it will be willing to sign a comprehensive test ban treaty.

AFP, 5/3/94; in JPRS-TND-94-011, 5/16/94, p. 1 (11088). *Arms Control Today*, 6/94, p. 31 (11088).

Late 5/94

Western diplomats report that China has entered the last stages of preparations for an underground test explosion of a hydrogen bomb at its Lop Nor testing site. China appears to be delaying the test until after U.S. President Bill Clinton's announcement on whether to extend China's most favored nation trading status. According to one diplomat, China's nuclear strategy involves having the ability to retaliate against nuclear

attacks from India, Russia, or U.S. forces in Guam or Japan. China is also upgrading its "symbolic" ability to reach the continental U.S. with up to 20 warheads. China's continued nuclear testing is viewed as complicating the process of concluding a comprehensive test ban treaty (CTBT). China has signalled its wish to enter discussions in 1995 for a CTBT and a nuclear materials trade convention, as well as the 1995 NPT Review and Extension Conference.

Patrick E. Tyler, *New York Times*, 5/26/94, p. A5 (11083). Theresa Hitchens, *Defense News*, 5/16/94, p. 22 (11083).

PRC WITH ALGERIA

12/93

In an interview following the dedication of Algeria's Es Salem nuclear reactor, which was built with Chinese assistance, Chinese Atomic Energy Agency Vice-President Li Dingfan says that China and Algeria have been cooperating in the nuclear sector for six years and predicts that this collaboration will continue. Li says, "if there is a desire for cooperation, there is no doubt that we shall be available and present."

El Moudjahid (Algiers), 12/22/93, p. 3; in JPRS-TND-94-005, 2/25/94, p. 10 (11085).

PRC WITH CANADA

4/94

Chinese Vice-Premier Zou Jiahau visits Canada's Darlington nuclear power plant and meets with Canadian Trade Minister Roy MacLaren to discuss the possibility of Canada supplying nuclear power reactors to China.

Shawn McCarthy, *Toronto Star*, 5/27/94, p. A5 (11098).

Late 5/94

Atomic Energy of Canada Ltd. (AECL)-Candu is preparing to begin talks with China regarding a possible sale of up to seven Candu 6 nuclear power reactors for \$10.5 billion. The head of AECL-Candu, Don Lawson, says that although formal negotiations have not yet begun, his company has been working on the deal for months and

hopes to finalize the first deal by 1996. Companies from the U.S., the U.K. and France will compete with AECL-Candu to provide reactors to China. AECL-Candu says that if it is to make a sale to China, Canada's Export Development Corp. will have to provide favorable financing to offset the terms likely to be offered by competitors. On 5/26/94, Canadian Trade Minister Roy MacLaren says that any reactor deal would be contingent on assurances from China that it will not re-export any Candu technology to a third country and that it will not use the reactors in its nuclear weapons program.

Shawn McCarthy, *Toronto Star*, 5/27/94, p. A5 (11098). Ian Austen, *Ottawa Citizen*, 5/28/94 (11098).

PRC WITH FRANCE

2/94

It is reported that France's Framatome is providing technical assistance for China's Yibin fuel fabrication plant under a 1991 agreement, and has contracted to assist with design and construction of two 600 MW nuclear islands for Phase II of the Qinshan nuclear power plant, where the first pouring of concrete is projected for 1995. Electricite de France's National Nuclear Construction Center is providing consultation on Phase II of Qinshan to China's Nuclear Power Qinshan Joint Venture Company, a consortium involving local provincial governments and China's electrical ministry.

Ann MacLachlan, *Nucleonics Week*, 2/17/94, pp. 3-4 (11495).

PRC WITH FRANCE AND GERMANY

2/17/94

It is reported that Framatome will be represented by Nuclear Power International (NPI), a joint venture with Germany's Siemens AG, in bidding for the two 900 or 1000 MW-class PWRs that China is planning to build in Fujian Province. China approved plans for the plant in 1/94. Construction of the reactors will begin in 1997 and it is projected that they will begin supplying power by 2004.

Ann MacLachlan, *Nucleonics Week*, 2/17/94, pp. 3-4 (11495).

PRC WITH HONG KONG

2/18/94

Hong Kong's security branch official in charge of public safety, Frankie Lui, says that China has "agreed in principle" to provide Hong Kong with on-site information regarding any problems at its French-built Daya Bay nuclear power plant. China has previously said that it would only provide Hong Kong with information relating to on-site incidents if they involved radiation leaks extending beyond the power plant.

Reuter, 2/18/94; in Executive News Service, 2/21/94 (11094).

PRC WITH INDIA

3/94

Reports indicate that China might sell uranium for use in India's boiling water reactors (BWRs).

Mark Hibbs, *Nucleonics Week*, 3/10/94, pp.7-8, (11484).

PRC WITH INDIA, PAKISTAN, AND UNITED STATES

2/16/94

Western diplomats announce that delegations from Pakistan and India, headed by former army chiefs, will engage in unofficial discussions the following week in China. Diplomats said that U.S. and Chinese nuclear experts would also be present at the talks. Diplomats say that India is exhibiting a seldom seen flexibility on the nuclear issue by deciding to participate in the talks.

Jawed Naqvi, Reuter, 2/16/94; in Executive News Service, 2/16/94 (11090).

PRC WITH IRAN

3/6/94

Chinese Foreign Minister Qian Qichen, after meeting with President Akbar Hashemi Rafsanjani, Foreign Minister Ali Akbar Velayati, and other Iranian leaders, says that their discussions did not cover China's 1993 agreement to construct a 300 MW nuclear power plant in Iran. Qian added that the agreement "is in the preparatory stage" and

that the power plant will be under full IAEA supervision.

Sharif Imam-Jomeh, *Reuter*, 3/6/94; in *Executive News Service*, 3/6/94 (11091).

3/20/94

The *China Daily* reports that China is holding discussions regarding a potential deal in which it would supply two 300 MW units to Iran.

Reuter, 3/20/94; in *Executive News Service*, 3/19/94 (11084).

PRC WITH IRAN AND RUSSIA

2/94

A U.S. Department of Defense official says Iran is currently negotiating with China and Russia for the purchase of commercial nuclear reactors that could be used for military purposes.

Philip Finnegan and Theresa Hitchens, *Defense News*, 2/28/94-3/6/94, p. 6 (11012). Alan Elsner, *Reuter*, 2/3/94; in *Executive News Service*, 2/3/94 (11013).

PRC WITH JAPAN

2/94

It is reported that Japan's Maeda Corporation took part in the construction of China's Guangdong (Daya Bay) nuclear power plant, which started commercial operation on 2/1/94.

Nuke Info Tokyo, 3/94-4/94, p. 10 (11495).

4/94

China's National Nuclear Safety Administration (NNSA) reaches a nuclear safety cooperation accord with the Nuclear Safety Bureau of Japan's Science and Technology Agency.

Xinhua (Beijing), 5/3/94; in JPRS-TND-94-011, 5/16/94, p. 47 (11093).

4/94

The Nuclear Safety System Institute (NSSI), a subsidiary of Japan's Kansai Electric Power Co., begins working with China to improve Chinese nuclear safety.

Nihonkeizai Shimbun, 4/19/94 (11093).

5/3/94

China and Japan sign a "cooperation arrangement on nuclear safety" which provides for information and personnel exchanges in order to improve nuclear safety. The agreement is in conjunction with a 1985 nuclear energy cooperation agreement signed by the two countries.

Xinhua (Beijing), 5/3/94; in JPRS-TND-94-011, 5/16/94, p. 47 (11093). *Hikan Kogyo Shimbun*, 5/2/94 (11093).

PRC WITH MULTI-COUNTRY GROUP

2/18/94

China and the U.K. agree to abide by a ban on dumping nuclear waste at sea, which was enacted by the London Convention in 11/93. Belgium, France, China, the U.K., and Russia were among the 72 signatories to the London Convention to abstain from the vote in 11/93. However, in recent weeks, Belgium and France have approved the ban. Deputy Director of the Chinese State Bureau of Oceanography Yang Wenhe told the Xinhua News Agency that the Chinese ban would take effect by 2/21/94. Yang said that "disposing of wastes without license or dumping irresponsibly at sea will be punished severely according to the law."

Bronwen Maddox and Tony Walker, *Financial Times*, 2/19/94, p. 1 (11021).

3/25/94

China opens the Third China International Nuclear Industry Exhibition, with participants from 30 foreign companies, including Framatome of France, Westinghouse of the U.S. and AECL of Canada, as well as over 30 Chinese companies. China hopes to become a prominent exporter of civilian nuclear technology and an important producer of nuclear power by the year 2000. According to an exhibition spokesman, "the exhibition aims to promote foreign exchanges and cooperation in this industry and to promote peaceful use of nuclear technology."

China Daily; in *ENS NucNet*, 3/21/94 (11089). *Reuter*, 3/26/94; in *Executive News Service*, 3/25/94 (11097).

PRC WITH NORTH KOREA

1/94

Chinese officials tell a visiting delegation from the U.S. War College that "North Korea may already possess nuclear arms." China "now virtually recognizes" the fact the North Korea possesses nuclear weapons based on tips received from North Korean officials.

Yonhap (Seoul), 2/19/94; in JPRS-TND-94-006, 3/16/94, p. 12 (11060).

Early 4/94

North Korean President Kim Il-sung cancels his journey to China due to China's support for a U.N. statement urging North Korea to permit further IAEA inspections of its seven declared nuclear facilities. President Kim and President Jiang Zemin of China were expected to meet in China in 5/94 to improve relations between the two countries.

Bruce Cheesman, *Times* (London), 4/8/94, p. 3 (11258).

4/13/94

Wu Xueqian, the deputy head of the Chinese Communist Party's Central Foreign Affairs Leading Group, indicates that the PRC favors dialogue as the only way to resolve the dispute with North Korea, and says that enacting sanctions or other pressure will "only complicate the problem."

Martin Sieff, *Washington Times*, 4/14/94, p. A14 (11262).

PRC WITH PAKISTAN

4/20/94

The China National Nuclear Corporation (CNNC) begins training 60 Pakistani engineers and technicians at its post-graduate school in the areas of nuclear power plant operation and maintenance, as agreed to in the contract under which it is providing the 300 MW Chashma plant to Pakistan. At the conclusion of the course, the trainees will receive hands-on instruction at China's Qinshan plant, the design of which was used in the construction of the Chashma plant.

Xinhua (Beijing), 4/20/94; in JPRS-TND-94-011, 5/16/94, p. 49 (11025).

5/94

China National Nuclear Corporation President Jiang Xinxiong says that Chinese exports of nuclear power generation equipment are doing well, citing current discussions with Pakistan regarding a second 300 MWe unit at Chasma.

Nuclear Engineering International, 5/94, p. 8 (11019).

PRC WITH RUSSIA

3/94

Russia and China sign a deal to design, construct, and operate a uranium enrichment plant using centrifugal isotope separation in China. The transfer of know-how is covered by the agreement. The Chinese facility will produce fuel for nuclear power plants.

Ministry of Atomic Energy (Russia); in *ENS NucNet*, 3/21/94 (11165).

5/94

Two Russian VVER-1000s are being assembled to be shipped to Liaoning province, China, according to a statement by Sun Guangdi, chief engineer for nuclear power at the China National Nuclear Corporation. The nuclear power plant is to be built at Wafangdian.

Nuclear Europe Worldscan, 5-6/94, p. 25 (11378).

PRC WITH SOUTH AFRICA

5/94

South Africa's Atomic Energy Corporation (AEC) recently denied the PRC enrichment technology because the Chinese government could not assure the South African government that the PRC would not in turn sell the technology to Pakistan, which is not a signatory of the NPT.

David Albright, *ISIS Report*, 5/94, pp. 17-19 (11477).

PRC WITH SOUTH AFRICA AND SOUTH KOREA

4/94

Guangdong Nuclear Power Joint Venture Company (GNPJVC) Deputy General Man-

ager Zhou Zhan Lin says that GNPJVC has agreements with South Korea's Korea Electric Power Corp. (KEPCO) and Eskom of South Africa for training and technical support for China's French-supplied Daya Bay pressurized water reactors (PWRs). Under the agreement, South Korean and South African nuclear experts are currently in the PRC for three to twelve months, and Chinese personnel are at South Korean and South African reactors to prepare for refuelling outages at Daya Bay.

Mark Hibbs, *Nucleonics Week*, 4/28/94, pp. 12-14 (11289).

PRC WITH UNITED KINGDOM

4/94

It is reported that U.K. vice-chancellors rejected a secret government proposal that would exclude students and researchers from countries such as Iran, Iraq, North Korea, China, and Libya from working at British universities in fields of study that could be useful in the development of nuclear weapons.

Ngaio Crequer, *Independent*, 4/25/94 (11486).

PRC WITH UNITED STATES

3/9/94

The U.S. Department of Commerce is due to eliminate its prohibition on the export of nuclear power plant turbines, reactor simulators, process controls, and other related equipment to China. The ban has been in effect since 1990, when the U.S. proscribed exports of nuclear explosive materials to China. A Commerce Department official noted that the annex to the Nuclear Suppliers Group agreement does not include power equipment, such as turbines and generators, on its list of nuclear-related items and technology that are of proliferation concern. According to the official, "the U.S. is trying to conform to our nuclear proliferation controls commitment [in our] multilateral agreements." The move will give U.S. companies, such as Westinghouse, access to the potential multi-billion dollar Chinese nuclear power plant market. China is expected to import more than \$50 billion worth

of balance of plant equipment through the year 2000.

Daniel Kaplan, *Energy Daily*, 3/7/94 (11031).

3/23/94

It is reported by the National Resources Defense Council (NRDC) that a number of scientists in the Chinese nuclear program had received training in physics in the U.S. The report states that Deng Jiaxian, considered the father of China's hydrogen bomb, was trained at Purdue University.

R. Jeffrey Smith, *Washington Post*, 3/24/94, p. A22 (11494).

SOUTH AFRICA

INTERNAL DEVELOPMENTS

2/94

Sixteen scientists who were involved with South Africa's nuclear weapons program threaten to disclose classified information unless they receive compensation for the loss of their jobs. The scientists say that they will reveal information pertaining to South Africa's weapons development and delivery systems, including details on "sources of specialized equipment and on foreign assistance with delivery systems." However, Armscor, the government nuclear procurement agency, was able to get an injunction which prohibited the workers from releasing any sensitive information on "armament supply, export, import, manufacture, or research."

Jane's Defence Weekly, 2/2/94, p. 4 (11303). David Albright, *ISIS Report*, 5/94, pp. 17-19 (11477).

2/94

Trevor Manuel, the head of the African National Congress' (ANC) economic planning department, states that the ANC remains committed to the Nuclear Non-Proliferation Treaty (NPT), a commitment which reflects the ANC's support of the Organization of African Unity's (OAU) Solemn Declaration to make Africa a nuclear-weapons-free zone. Manuel states that the

ANC government will review the state's subsidy to the Atomic Energy Commission (AEC), the AEC's molecular laser enrichment process, and the possibility of continued support for a fuel fabrication plant.

Nature, 3/10/94 (11474).

5/94

It is reported that South African weapons technicians at the Advena Central Laboratories nuclear weapons facility imported relatively simple machine tools in order not to arouse suspicion among Western intelligence agencies which monitor the trade of nuclear exports. These machine tools were used creatively by using expert machinists who developed methods of producing complex shapes on simple machines. The technicians at Advena also used unclassified literature such as the U.S. Navy Handbook 255, "Nuclear Weapons Systems, Safety, Design, and Evaluation, Criteria For."

ISIS Report, 5/94, p. 13 (11471).

5/94

The African National Congress (ANC) government wishes to conduct an official investigation into South Africa's dismantled nuclear weapons program, but U.S. officials are concerned that this may result in the release of sensitive information on nuclear weapons technology. In 1993, during the elections in South Africa, members of the ANC accused the de Klerk government of lying about the absence of foreign assistance from the PRC and Israel in the development of South Africa's nuclear weapons program.

David Albright, *ISIS Report*, 5/94, pp. 17-19 (11477).

5/25/94

South African Deputy President Thabo Mbeki tells the U.N. Security Council that South Africa wishes to create a nuclear weapons-free zone in Africa. During a meeting convened to discuss the end of the arms embargo against South Africa, Mbeki says, "Our government is also keen that a treaty for an African nuclear-weapons free zone be concluded as soon as possible."

Anthony Goodman, Reuter, 5/25/94; in Executive News Service, 5/25/94 (11476).

SOUTH AFRICA WITH IAEA

2/94

According to IAEA Deputy Director for Safeguards Bruno Pellaud, safeguarding the previously secret fuel-cycle facilities in South Africa will require 200 inspector days per year beginning in 1994.

Nucleonics Week, 2/3/94, p. 14 (11267).

2/94

Since 1991, when South Africa signed the Nuclear Non-Proliferation Treaty, IAEA inspectors have made approximately 20 visits to South Africa's nuclear facilities. However, the IAEA has not yet been able to account for approximately 15-25 kg of highly enriched uranium.

Foreign Report, 2/24/94 (11479).

SOUTH AFRICA WITH ISRAEL

5/94

According to information released from the secret mid-1980s extortion trial of Johann Blaauw, a brigadier in the South African army, South Africa and Israel participated in four clandestine nuclear deals in the mid-1970s. The first nuclear transaction occurred shortly after the Yom Kippur war in 1973 and involved the sale of 50 metric tons of yellowcake to Israel. In the second transaction, South Africa imported 30 grams of tritium, which is used to create thermonuclear bombs. The third and fourth transactions involved South Africa exporting 50 and 500 metric tons of yellowcake, respectively, to Israel.

ISIS Report, 5/94, p. 5 (11478).

SOUTH AFRICA WITH PAKISTAN

5/94

It is reported that Pakistan had approached South African firms for "process control equipment for heavy water technology," but the government blocked the sale.

David Albright, *ISIS Report*, 5/94, pp. 17-19 (11477).

SOUTH AFRICA WITH PRC

4/94

Guangdong Nuclear Power Joint Venture Company (GNPJVC) Deputy General Manager Zhou Zhan Lin says that GNPJVC has agreements with South Korea's Korea Electric Power Corp. (KEPCO) and Eskom of South Africa for training and technical support for China's French-supplied Daya Bay pressure water reactors (PWRs). Under the agreement, South Korean and South African nuclear experts are currently in the PRC for three to twelve months, and Chinese personnel are at South Korean and South African reactors to prepare for refuelling outages at Daya Bay.

Mark Hibbs, *Nucleonics Week*, 4/28/94, pp. 12-14 (11289).

5/94

South Africa's Atomic Energy Corporation (AEC) recently denied the PRC enrichment technology because the Chinese government could not assure the South African government that the PRC would not in turn sell the technology to Pakistan, which is not a signatory of the NPT.

David Albright, *ISIS Report*, 5/94, pp. 17-19 (11477).

SOUTH AFRICA WITH UNITED STATES

9/20/93

Trisha Dedik, director of the export control operations division of the U.S. Office of Export Control & International Safeguards, grants approval for ATTSI of the U.S. to provide five years of technical assistance to the Koeberg Nuclear Power Station in South Africa. ATTSI must obtain additional export licenses and approval "for activities at Koeberg not described in its application."

NuclearFuel, 2/28/94, p. 17 (11304).

2/94

At the Nuclear Policy for a Democratic South Africa conference held in Capetown, Isaac Amuah, a former member of the U.S. Congress' Office of Technology Assessment (OTA), states that the African National Congress (ANC) should not dismantle South Africa's nuclear weapons infrastructure. On

3/7/94, a spokesperson for the U.S. OTA states that Amuah had worked for an OTA project for several months in 1992 but had since left the organization. Peter Johnson, Senior Associate of the OTA project with which Amuah was associated, says that the OTA has never given suggestions about South Africa's nuclear policy.

Mark Hibbs, *Nucleonics Week*, 3/10/94, p. 7 (11472). *ISIS Report*, 5/94, p. 13 (11471).

5/94

South Africa's Atomic Energy Corporation (AEC) and the U.S. Department of Energy are currently evaluating the possibility of replacing the high-enriched uranium (HEU) in South African reactors with low-enriched uranium (LEU). South Africa would then be able to sell the remaining HEU to be blended and reduced into LEU. ANC officials have thus far supported the feasibility study but have not made a final commitment to the uranium downgrade process.

David Albright, *ISIS Report*, 5/94, pp. 17-19 (11477).

5/17/94

A U.S. General Accounting Office (GAO) report ["Export Licensing Procedures for Dual-Use Items Need to be Strengthened" (GAO-NSIAD-94-119)] reveals that since 1988, South Africa had over 80% of its requested shipments for nuclear-related equipment from the U.S. approved.

R. Jeffrey Smith, *Washington Post*, 5/18/94; in Executive News Service, 5/18/94 (11139).

SOUTH KOREA

INTERNAL DEVELOPMENTS

1991

South Korean President Roh Tae-woo plans to develop atomic bombs, but halts the effort under U.S. pressure. Roh had formulated the plans for a South Korean nuclear weapons program to diminish military dependence on the U.S. after it was reported

that North Korea was suspected of developing nuclear weapons.

Paul Shin, *Washington Times*, 3/29/94, p. A11 (11069).

6/9/93

It is reported that the South Korean industrial firm Daewoo has developed a high-energy capacitor which can withstand extreme shock and temperatures and which can operate in a vacuum.

Chugan Maegyong, 6/9/93; in JPRS-TND-94-008, 4/1/94, pp. 18-20 (11264).

10/23/93

It is reported that Korea Ion and the Korea Institute of Machinery and Metals have developed a \$250,000 "electron beam welder" which can "be used for precision welding and to join metals of different types."

Maeil Kyongje Sinmun, 10/23/93; in JPRS-TND-94-008, 4/1/94, pp. 18-20 (11264).

12/29/93

It is reported that the Korea Institute of Machinery and Metals has developed an "ion nitriding electric furnace" and "numerical-controlled gas cutting machinery." The Korea Advanced Institute of Science and Technology has developed an "ultra-high precision (nanometer scale) lathe."

Chugan Maegyong, 12/29/93; in JPRS-TND-94-008, 4/1/94, pp. 18-20 (11264).

1/22/94

It is reported that the Korea Institute of Machinery and Metals has developed high-speed "image processing equipment" which can determine "how molecules of a material undergoing a disintegrating reaction are spatially distributed." The equipment uses a "high-energy charge coupled device" to provide three-dimensional images of the distribution of disintegrating material.

Maeil Kyongje Sinmun, 1/22/94; in JPRS-TND-94-008, 4/1/94, pp. 18-20 (11264).

4/8/94

A North Korean source claims that South Korea is using its heavy water reactor at Wolsong and its multipurpose research reactor at Taedok, which are classified as "commercial" and "research" reactors, respectively, to develop a nuclear weapons capability.

KCNA (Pyongyang), 4/8/94 (11491).

4/13/94

Greenpeace research coordinator Shaun Burnie claims that South Korea is planning to build a prototype, plutonium-fuelled fast breeder reactor (FBR) sometime between 2015 and 2025. The allegation is subsequently denied by the South Korean government.

Shim Sung-won, Reuter, 4/13/94; in Executive News Service, 4/13/94 (110068).

SOUTH KOREA WITH INDIA

4/8/94

Additional Secretary of India's Department of Atomic Energy (DAE) P.R. Prabhakara signs a \$23 million contract with Korea Electric Power Corporation (KEPCO) Vice President Sohn Bong-up to supply South Korea with 100 tons of heavy water. India will deliver the heavy water, which will be subject to IAEA safeguards, in 1997-1998. The heavy water is destined for use at South Korea's 600 MW Wolsong-2 reactor.

Press Trust of India; in *India Times*, 4/9/94 (11078).

SOUTH KOREA WITH ISRAEL

10/5/93

It is reported that South Korea has reached agreement with Israel "for scientific cooperation on several levels." According to Seoul press sources, the agreement will enhance South Korean efforts to acquire "advanced weapons components or technology."

Choson Ilbo, 10/5/93; in JPRS-TND-94-008, 4/1/94, pp. 18-20 (11264).

SOUTH KOREA WITH JAPAN

5/25/90

South Korea and Japan reach an atomic energy cooperation accord which envisages technological exchanges and joint atomic energy research, according to a 5/4/94 report by a North Korean network.

Korean Central Broadcasting Network (Pyongyang), 5/4/94; in JPRS-TND-94-011, 5/16/94, pp. 4-5 (11465).

11/9/90

At a conference, South Korea and Japan agree to "jointly promote the development of next-generation reactors," according to a 5/4/94 report by a North Korean network.

Korean Central Broadcasting Network (Pyongyang), 5/4/94; in JPRS-TND-94-011, 5/16/94, pp. 4-5 (11465).

11/6/93

At a "secret meeting," South Korean President Kim Yong-sam and Japanese Premier Hosokawa in Kyongju agree to jointly develop nuclear weapons, according to a 5/4/94 report by a North Korean network.

Korean Central Broadcasting Network (Pyongyang), 5/4/94; in JPRS-TND-94-011, 5/16/94, pp. 4-5 (11465).

SOUTH KOREA WITH NORTH KOREA

3/1/94

North Korea's chief delegate to inter-Korean talks, Park Yong-su, announces that the North would be willing to have a working-level contact with South Korea on 3/3/94 in order to discuss the exchange of special envoys on the nuclear issue. The meeting will be the fourth round of border talks on the envoy exchange and the first official contact between the two Koreas since 11/93.

Lee Su-wan, Reuter, 3/1/94; in Executive News Service, 3/1/94 (11464).

3/3/94

North and South Korea begin border talks at Panmunjom to discuss exchanging special envoys, and South Korea announces that it is suspending the joint U.S.-South Korean Team Spirit military exercises. The suspension is contingent upon North Korea allowing the IAEA to complete inspections currently underway.

Michael R. Gordon, *New York Times*, 3/3/94, p. A3 (11464).

3/9/94

At a second session of working-level talks in Panmunjom between North and South Korean delegates, North Korea issues a draft agreement to the South calling for the exchange of special envoys. The delegates make no further progress on the exchange of envoys but agree to meet again on 3/12/94.

Lee Su-wan, Reuter, 3/10/94; in Executive News Service, 3/10/94 (11480). AFP; in *International Herald Tribune*, 3/10/94 (11464).

3/12/94

At the third round of inter-Korean talks, North and South Korea made little progress, but South Korean chief delegate Song Young-dae indicates that North Korea has softened its conditions for the exchange of envoys to take place.

Kim Myong-hwan, Reuter, 3/12/94; in Executive News Service, 3/15/94 (11443).

3/16/94

North and South Korea fail to make any progress in the fourth round of inter-Korean talks, according to South Korea's chief delegate Song Young-dae.

Yun Suk-bong, Reuter, 3/16/94; in Executive News Service, 3/16/94 (11443).

3/19/94

Inter-Korean talks on the proposed exchange of envoys to discuss the nuclear issue break down when the North Korean delegation walks out of the meeting. The officials do not set a date for a further meeting.

Washington Times, 3/19/94, p.A9 (11481).

4/7/94

South Korean President Kim Young-sam establishes a crisis unit of senior cabinet ministers to handle the nuclear threat from North Korea. The unification minister will chair the council, which will consist of foreign and defense ministers, the internal intelligence agency director, the chief presidential Secretary, and other presidential aides.

Shim Sung-won, Reuter, 4/7/94; in Executive News Service, 4/7/94 (11254).

4/15/94

Lee Yung-duk, South Korea's Unification Minister, says that South Korea has dropped its demand for an exchange of envoys with North Korea to resolve the issue of nuclear inspections. Lee also indicates that South Korea favors continuing dialogue "for mutual and simultaneous inspections of each other's nuclear facilities" within the framework of the Joint Nuclear Control Commission, which has been moribund since the 1991 joint declaration for the denuclearization of the Korean Peninsula.

Lee Su-wan, Reuter, 4/15/94; in Executive News Service, 4/15/94 (11412). Shim Jae Hoon, *Far Eastern Economic Review*, 4/28/94 (11412).

SOUTH KOREA WITH NORTH KOREA AND UNITED STATES

4/1/94

South Korean Defense Minister Han Sung-joo says that the U.S. and South Korea will delay their decision on whether or not to conduct their joint Team Spirit military exercises in order to give North Korea sufficient time to respond to a 3/31/94 U.N. Security Council statement which calls on North Korea to allow inspections of its nuclear facilities.

Art Pine, *Los Angeles Times*, 4/2/94, p. A10 (11352). Michael R. Gordon, *New York Times*, 4/2/94, p. 3 (11352).

4/18/94

U.S. Assistant Secretary of State Robert Gallucci and Kim Sam-hoon of South Korea agree that the U.S. will not hold high-level talks with North Korea unless it consents to complete nuclear inspections by early 5/94. Although they resolve not to make U.S.-North Korean talks contingent upon the exchange of envoys between North and South Korea, the U.S. and South Korea agree that a failure by North Korea to accept inspections should lead the U.N. Security Council to consider sanctions against it.

John Burton, *Financial Times*, 4/19/94, p. 4 (11265). *Nihonkeizai Shimbun*, 4/19/94 (11265).

SOUTH KOREA WITH PRC

4/94

Guangdong Nuclear Power Joint Venture Company (GNPJVC) Deputy General Manager Zhou Zhan Lin says that GNPJVC has agreements with South Korea's Korea Electric Power Corp. (KEPCO) and Eskom of South Africa for training and technical support for China's French-supplied Daya Bay pressure water reactors (PWRs). Under the agreement, South Korean and South African nuclear experts are currently in the PRC for three to twelve months, and Chinese personnel are at South Korean and South

African reactors to prepare for refuelling outages at Daya Bay.

Mark Hibbs, *Nucleonics Week*, 4/28/94, pp. 12-14 (11289).

SOUTH KOREA WITH ROMANIA

Mid-3/94

Romanian President Ion Iliescu and South Korean President Kim Young-sam agree on cooperation between their countries in the peaceful use of nuclear energy and in nuclear power technology.

Newsreview (South Korea), 3/19/94, p. 6 (11113).

SOUTH KOREA WITH RUSSIA

9/11/93

It is reported that South Korean firms have concluded numerous R&D contracts with Russia, one of which provides South Korea with technology allowing it to manufacture instruments capable of measuring high pressure.

Hanguk Kyongje Sinmun, 9/11/93; in JPRS-TND-94-008, 4/1/94, pp. 18-20 (11264).

1/25/94

A South Korean envoy to Russia reports that Russia could sell enriched uranium to South Korea to repay \$1.47 billion in loans that South Korea made to the former Soviet Union.

Yonhap (Seoul), 1/25/94; in JPRS-TND-94-005, 2/25/94, p. 57 (11006).

5/9/94

It is reported that Tenex of Russia and "Kerso" [possibly Korea Electric Power Corporation (KEPCO)] of South Korea have signed a 10 year, \$200 million uranium enrichment agreement.

Ux Report, 5/9/94, p. 3; in *Uranium Institute News Briefing*, 94/19, 5/4/94-5/10/94, p. 1 (11115).

SOUTH KOREA WITH TURKEY

5/13/94

It is reported that a partnership of the Korean Atomic Energy Research Institute and

Hyundai Engineering has submitted a bid for Turkey's first nuclear power plant.

Financial Times, 5/13/94 (11112).

SOUTH KOREA WITH UNITED KINGDOM

3/94

It is reported that the U.K.'s Atomic Energy Authority will send its "force feedback input device," known as BSP, to South Korea's Atomic Energy Research Institute as part of an overall telerobotic system.

Atom, 3/94-4/94 (11487).

4/19/94

Nuclear Electric (NE) of the U.K. and the Korea Electric Power Corporation (KEPCO) of South Korea sign a cooperation accord in London which envisages the exchange of expertise in technical and managerial areas. The agreement will probably involve an annual conference between the two companies as well as exchanges of staff and documents.

Nucleonics Week, 4/21/94, p. 15 (11259). Michael Smith, *Financial Times*, 4/20/94 (11259). *Nuclear Europe Worldscan*, 5/94-6/94, p. 27 (11106).

SOUTH KOREA WITH UNITED STATES

1991

In an effort to end a South Korean nuclear weapons program, the U.S. pressures nuclear weapons experts hired by the South Korean government to leave the Daeduk Science Town, a site in central South Korea which contains experimental reactors, a uranium processing plant, and other major nuclear research facilities.

Paul Shin, *Washington Times*, 3/29/94, p. A11 (11069).

4/14/94

Greenpeace campaigner Tom Clements indicates that South Korea is engaged in talks with the U.S. regarding the use of plutonium fuel in South Korea.

Shim Sung-won, *Reuter*, 4/13/94; in *Executive News Service*, 4/13/94 (110068).

SPAIN

INTERNAL DEVELOPMENTS

5/6/94

It is reported that Spain's state-owned Endesa and the private Spanish firm Iberdrola are discussing the creation of an organization that would provide centralized management for Spain's nuclear industry. The proposal seeks to integrate the management of the functions common to all nuclear plants, including refueling, training of personnel, research and development, and studies on more advanced reactors. Once an agreement is reached between Endesa and Iberdrola, it is to be signed by the Spanish nuclear sector's other companies, including Union Fenosa and Hidroelectrica del Cantabrico.

Enerpresse, 5/6/94 (11114).

SPAIN WITH BRAZIL

2/27/94

It is reported that Brazil will make a profit of \$1.4 billion in 1994 by using equipment and personnel at the Angra-2 nuclear power plant to train Spanish, Argentine, French, and German technicians, at a cost of \$30,000 per person per week.

Folha de Sao Paulo, 2/27/94, p. 2; in JPRS-TND-94-007, 3/23/94, p. 4 (11045).

SPAIN WITH FRANCE

4/27/94

It is reported that Spain's Empresa Nacional de Uranio (Enusa) supplies the first nuclear fuel elements to the Electricite de France nuclear plant in Belleville. Enusa produces the fuel elements in its Juzbado plant in Salamanca.

El Pais (Madrid), 4/27/94 (11037).

SPAIN WITH IRAN

2/94

Iran is negotiating with a Spanish company for the supply of nuclear technology and engineering services Iran needs to divert four of its nuclear reactors to military use. Iran is attempting to obtain the Spanish technology through a contract for improvements in safety levels at two reactors under construction in Gargar and two 300 MW Chinese reactors being built in al-Ahvaz. In 1/94 the Iranian Nuclear Energy Commission signed an \$80 million contract with the Spanish company to conduct engineering services on one reactor at al-Ahvaz and to provide similar services at the Bushehr reactor, which Russia has agreed to rebuild. The 1000 MW Bushehr reactor is 80% complete and Iran hopes that the Spanish company will help in its rebuilding before Germany's Siemens terminates its assistance. Iran's interest in obtaining this technology is reflected by the presence of Reza Amrollahi, assistant to President Rafsanjani for nuclear affairs and chairman of the Iranian Nuclear Energy Commission, and Kazem Rasuli, director of the Nuclear Technological Center in Esfahan (ENTC), at the negotiations. The Spanish delegation is headed by the Spanish company's director general, who was involved with Siemens in constructing the Bushehr reactor. Adolfo Garcia Rodrigues, director of the Spanish nuclear engineering company Empresarios Agrupados, states that he was not aware of Amrollahi's visit in 1/94 and has not met with him for "at least two years." According to Rodrigues, Empresarios Agrupados is in contact with Iran through the IAEA and has conducted damage assessments on the Bushehr reactor. Rodrigues also states that he believes that the sales contract for two 300 MW Chinese reactors have not been signed, but adds that once the reactors are delivered Empresarios Agrupados will work with Iran "either directly or through the agency in Vienna."

Walid Abi-Murshid, *Al-Sharq Al-Awsat* (London), 2/12/94, pp. 1, 4 (11302). *Intelligence Newsletter*, 2/24/94, p. 6 (11302).

2/16/94

Ali Shirzadian, spokesman for the Atomic Energy Organization of Iran (AEOI), denies that there is any nuclear cooperation for military purposes between Iran and Spain.

IRNA (Tehran), 2/16/94; in JPRS-TND-94-006, 3/16/94, p. 57 (11302).

SPAIN WITH JAPAN

3/94

It is reported that Spain's ENUSA is currently developing plans to cooperate with Japanese firms in the area of nuclear power.

Ignasi Soler, *El Pais* (Madrid), 3/28/94 (11492).

SPAIN WITH NIGER

3/28/94

It is reported that Spain's ENUSA owns 10% of the Akouta Mining Company in Niger.

Ignasi Soler, *El Pais* (Madrid), 3/28/94 (11492).

SPAIN WITH UKRAINE

1/94

Spain expresses willingness to assist Ukraine in the process of nuclear disarmament.

News From Ukraine, 2/94, p. 4 (11281).

SPAIN WITH UNITED STATES

2/28/94

Experts from U.S.-based General Electric participate in the refueling activities and safety-system revisions at Spain's Santa Maria de Garona nuclear plant.

El Pais (Madrid), 3/1/94 (11055).

TAIWAN

INTERNAL DEVELOPMENTS

2/22/94

It is reported that Taiwan's Atomic Energy Council is reviewing Taipower's environmental report for a spent nuclear fuel storage facility, which is an important step in the project's approval. The installation is to be located near the Chinshan nuclear power station, and will temporarily store the spent nuclear fuel from Taiwan's three nuclear power plants. Taipower anticipates that the storage facility will begin operating around the year 2000.

Taipower; in *ENS NucNet*, 2/22/94 (11038).

4/12/94

Taiwanese Premier Lien Chan indicates that the Republic of China (ROC) does not intend to develop nuclear weapons and is a peace-loving country. Lien makes the statement in response to a request by Democratic Progressive Party legislator Chou Po-lung, who, although opposed to the construction of a fourth nuclear power plant on Taiwan, has proposed that the ROC develop nuclear weapons in order to defend itself against the People's Republic of China (PRC).

Bvenjamin Yeh, *CNA* (Taipei), 4/12/94; in JPRS-TND-94-010, 5/5/94, p. 5 (11015).

TAIWAN WITH JAPAN

3/94

It is reported that Japan's Mitsubishi and Hitachi will be invited to a Taiwanese conference for the bidding for turbine equipment for Taiwan's fourth nuclear power plant. The conference will be held on 4/7/94.

Nuclear Report From Taiwan, 1/94-3/94, pp. 3, 10 (11051).

4/13/94

It is reported that Taiwan will accept offers from Japanese companies in the bidding for its fourth nuclear power plant. Taiwan had

prohibited nationalized firms from importing Japanese goods due to mounting trade deficits, but is attempting to liberalize its trade policies in order to become a party to the General Agreement on Tariffs and Trade.

Nikkankogyo Shimibun, 4/13/94 (11110).

TAIWAN WITH MULTI-COUNTRY GROUP

1/8/94

Taipower indicates that seven bids have been submitted for the generation equipment at Taiwan's fourth nuclear plant project [Lungmen], and Taiwan is currently considering Sweden's ABB, GE and Westinghouse of the U.S., Japan's Hitachi, Germany's Siemens AG, and the U.K.'s Alsthom.

Nuclear Report From Taiwan, 1/94-3/94, pp. 3, 10 (11051).

5/94

Taiwan Power Company (Taipower) is involved in bid evaluation for the two-reactor Lungmen nuclear power plant. Groups bidding for the project include a joint effort between U.S.-based Westinghouse and the U.K.'s Nuclear Electric (NE), which have submitted a pressurized water reactor (PWR) design similar to NE's Sizewell B; ABB-Combustion Engineering of the U.S., which has proposed its System 80+; and the Nuclear Power International joint venture between France's Framatome and Germany's Siemens, which has offered a PWR based on the P'4 developed by Framatome. Taiwan intends to build two 950 to 1350 MW reactors at Lungmen.

Donald Shapiro, *Nucleonics Week*, 5/26/94, pp. 5-6 (11014).

TAIWAN WITH OECD

1/94

The Nuclear Energy Agency (NEA) of the Organization of Economic Cooperation and Development (OECD) accepts Taiwan as a probationary member.

Nuclear Report From Taiwan, 1/94-3/94, p. 3 (11053).

TAIWAN WITH RUSSIA

2/19/94

A six-member group from Taiwan, consisting of Taipower consultant Lin Yin, Chief of Taipower's Nuclear Terminal Operations Division Chein Pei-chen, Head of the National Enterprise Division Huang Jen-chu, an AEC representative, and two professors from AEC's Nuclear Research Institute, arrive in Moscow to discuss the possibility of storing Taiwan's nuclear waste in Russia.

Nuclear Report From Taiwan, 1/94-3/94, p. 35 (11374).

5/94

It is reported that Taipower is about to sign a letter of intent obliging Russia to cooperate in the disposal of high level waste outside of Taiwan.

BBC Summary of World Broadcasts, 5/23/94; in *The Uranium Institute News Briefing*, 5/18-24/94, 94/21, p. 1 (11158).

TAIWAN WITH UNITED STATES AND SWEDEN

2/94

It is reported that Taiwan has chosen Combustion Engineering of the U.S. and Sweden's ABB to build a SYSTEM 80+ advanced pressurized reactor for Taiwan's fourth nuclear power plant.

Nuclear Report From Taiwan, 1/94-3/94, pp. 3, 10 (11051).