NUCLEAR-RELATED TRADE AND COOPERATION DEVELOPMENTS, JANUARY-APRIL 1993

EMERGING NUCLEAR SUPPLIER STATES

ARGENTINA

Internal Developments

2/93

Enrique de la Torre, director of international nuclear safety for the Argentine Foreign Ministry, states that the Treaty of Tlatelolco is expected to be ratified by Argentina's congress in 3/93.

Armin Scmid, Nucleonics Week, 2/25/93, p. 12 ***(9940)***.

The number listed in parenthesis following the bibliographic references refers to the identification number of the document in the Emerging Nuclear Suppliers Project Database, from which the news summaries were abstracted. Events listed in this issue of The Nonproliferation Review are abstracted from documents published between January and April 1993. Because of the rapidly changing nature of the subject matter, we are unable to guarantee that the information reported herein is complete or accurate, and we disclaim liability to any party for any loss or damage caused by errors or omissions.

Argentina with Algeria

1993

A Russian intelligence report states that Algeria has attempted to establish contacts with Argentina in order to obtain "technical secrets" and nuclear technology.

Report by the Russian Foreign Intelligence Service, Moscow, 1993; in JPRS-TND-93-007, 3/5/93, p. 21 ***(9476)***.

Argentina with Brazil

2/93

Enrique de la Torre, director of international nuclear safety for the Argentine Foreign Ministry, visits Brazil in an attempt to get that country to speed up its ratification of the "four party" treaty on nuclear proliferation, which Argentina ratified in 1992.

Armin Scmid, Nucleonics Week, 2/25/93, p. 12 ***(9940)***. *Nuclear Engineering International, 4/93, p. 8* ***(9654)***.

Argentina with Canada, France, Germany and United States

2/93

Enrique de la Torre, director of international nuclear safety for Argentina's Foreign Ministry, states that Argentina is ready to negotiate agreements on nuclear cooperation with the U.S., France, Germany and Canada.

Armin Scmid, Nucleonics Week, 2/25/93, p. 12 ***(9940)***. *Nuclear Engineering International, 4/93, p. 8* ***(9654)***.

Argentina with Egypt

3/93

The Argentine ambassador to Egypt, Jorge Humberto de Belaustegui, announces that Argentina will train Egyptian experts in the field of nuclear technology. Argentina will work with Egypt to build a nuclear reactor under IAEA supervision.

Rose al-Yasuf (Cairo), 12/14/92, p. 55; in JPRS-TND-93-009, 3/29/93, p. 23 **(9823)**.

Argentina with Germany

4/93

Germany announces that it is removing Argentina from its "H" list. Exports o sensitive material to a country on the list must be approved by a number of German ministeries; removing Argentina from the list will make it considerably simpler to export items to that country. Germany had placed Argentina on the list because of concerns over Argentina's missile project, its lack of export controls, and its failure to sign the Treaty of Tlatelolco.

Armin Scmid, Nucleonics Week, 2/25/93, p. 12 ***(9940)***. *Press Communique, Ministry of Foreign Affairs of Argentina, Buenos Aires, 4/21/93* ***(9549)***.

Argentina with Iran

2/93

The IAEA confirms that Argentina will

export a shipment of 20% enriched uranium to Iran in 1993.
Claude Van England, Christian Science Monitor, 2/18/93, p. 7 ***(9701)***. *The Arms Control Reporter, 3/93* ***(9707)***.

Argentina with Multi-Country Group

1/93

Argentina participates in a planning meeting of the "Regional Cooperative Agreements for the Promotion of Nuclear Science and Technology in Latin America" (ARCAL). Other members of the group include Bolivia, Brazil, Colombia, Guatemala, Mexico, Panama, Paraguay, Peru, Uruguay and Venezuela.
El Mercurio (Santiago), 2/1/93, p. C2; in JPRS-TND-93-005, 2/12/93, p. 9 ***(9653)***.

Argentina with Nuclear Suppliers Group

3/93

Argentina participates in a Nuclear Suppliers Group meeting.
Press Communique, Ministry of Foreign Affairs of Argentina, Buenos Aires, 4/21/93 ***(9549)***.

Argentina with Romania and South Korea

3/93

National Commission of Atomic Energy (CNEA) president Manuel Mondino mentions "the possibility that arose during the last few days" that Argentina would export heavy water to Romania and South Korea.
Buenos Aires Radio Nacional Network, 3/15/93; in JPRS-TND-93-009, 3/29/93, p. 29 ***(9655)***.

Argentina with the United States

11/23/92

The U.S. Department of Energy authorizes the sale of the Electric Power Research Institute's Retran computer program to Argentina. The Retran program is used to design nuclear power plants. Argentina was required to promise that the program would be used for peaceful purposes only and that it would not be transferred to a third country.
Nuclear Fuel, 2/15/93, p. 13 ***(9269)***.

2/12/93

Argentina signs a memorandum of understanding with the U.S. regarding sensitive technology transfer.
Armin Schmid, Nucleonics Week, 2/25/93, p. 12 ***(9940)***. *Press Communique, Ministry of Foreign Affairs of Argentina, Buenos Aires, 4/21/93* ***(9549)***.

BRAZIL

Internal Developments

10/92

The impeachment of President Collor de Mello and his replacement by Itmar Franco leads to changes in Brazil's nuclear policy. Franco restructures the Commisao Nacional de Energia Nuclear (CNEN), so that the national commission retains the right to formulate nuclear energy policies in Brazil, but no longer has control over the organizations that implement them. In addition, conclusion of a refinancing agreement for the Angra II plant and ratification of the four-party treaty on nuclear proliferation between Brazil, Argentina, ABACC (Brazil-Argentina Association for the Control of Nuclear Weapons), and the IAEA are also delayed.
Nuclear Engineering International, 1/93, p. 6 ***(9652)***. *Nuclear Engineering International, 4/93, p. 8* ***(9654)***.

1/93

Marcio Costa is appointed head of the Commisao Nacional de Energia Nuclear (CNEN) by Brazilian President Itmar Franco. Costa had previously served as director of ABACC (Brazil-Argentina Association for the Control of Nuclear Weapons) and director of the utility Furnas Centrais Electricas SA, which operates the Angra nuclear power plant.
Nucleonics Week, 1/14/93, p. 13 **(9059)**.

Brazil with Argentina

2/93

Enrique de la Torre, director of international nuclear safety for the Argentine Foreign Ministry, visits Brazil in an attempt to persuade that country to speed up its ratification of the "four party" treaty on nuclear proliferation, which Argentina ratified in 1992.
Armin Scmid, Nucleonics Week, 2/25/93, p. 12 ***(9940)***. *Nuclear Engineering International, 4/93, p. 8* ***(9654)***.

Brazil with Iraq

1/93

Brazil is suspected of providing Iraq with a design for centrifuges and also of supplying Iraq with an actual centrifuge.
David Albright and Mark Hibbs, Bulletin of Atomic Scientists, 1-2/93, pp. 8-9 ***(9624)***. *Mednews, 1/25/93, pp. 1-3* ***(9621)***.

Brazil With Multi-Country Group

1/93

Brazil participates in a planning meeting of the "Regional Cooperative Agreements for the Promotion of Nuclear Science and Technology in Latin America" (ARCAL). Other members of the group include Argentina, Bolivia, Colombia, Guatemala, Mexico, Panama, Paraguay, Peru, Uruguay and Venezuela.
El Mercurio (Santiago), 2/1/93, p. C2; in JPRS-TND-93-005, 2/12/93, p. 9 ***(9653)***.

Brazil with North Korea

2/93

Brazil objects to the IAEA's demand for special inspections of suspected nuclear facilities in North Korea.
Mark Hibbs, Nucleonics Week, 2/18/93, pp. 16-17 ***(9431)***.

Brazil With United States

11/92

Brazil reaches an agreement with the Wis-

BRAZIL-INDIA

consin Public Service Corporation to lease the Kewaunee power plant simulator. The simulator will be used by Brazil to train nuclear power plant operators at the Angra I plant.
Nuclear Fuel, 2/15/93, p. 13 ***(9651)***.

INDIA

INTERNAL DEVELOPMENTS

1/93

Indian officials discuss a number of advances in the country's nuclear industry. India's Kakrapar PHWR unit is the first reactor in which thorium bundles have been introduced in the initial fuel stage. Other advancements include programs to produce zinc alloy and natural uranium fuels, new mining facilities, and the exploration, processing, and production of zirconium and titanium sponge. India's three-stage development of its nuclear program, which includes a first stage of building and operating PHWRs, a second stage of creating and operating fast breeder reactors for burning plutonium, and a third stage of using thorium, is "firmly on course."
Patriot (New Delhi), 1/4/93, p. 5; in JPRS-TND-93-004, 2/5/93, p. 19 ***(9637)***.

1/20/93

Indian police seize approximately 2.5 lbs of material believed to be uranium. The unclaimed material is discovered in a pharmacy in the town of Begusarai and is sent to the Bhabha Atomic Research Center (BARC) for analysis.
AFP (Hong Kong), 1/21/93; in JPRS-TND-93-004, 2/5/93, p. 19 ***(9931)***.

1/31/93

R. Chidambaram replaces P.K. Iyengar as chairman of India's Atomic Energy Commission. Chidambaram was previously director of the Bhabha Atomic Research Center.
Nuclear Engineering, 4/93, p. 10 ***(9640)***.

2/93

A study done by the Stockholm Peace Research Institute (SIPRI) states that India possesses 60 nuclear warheads, had produced 700 lbs. of weapons grade plutonium by the end of the 1991 and is expected to have twice that amount by 2000. The study is part of a publication entitled World Inventory of Plutonium and Highly Enriched Uranium 1992, and was written by William Walker, David Albright, and Franz Berkhout. Other Western intelligence sources state that India has 25-30 nuclear devices.
Ariane Sains, Nucleonics Week, 3/4/93, pp. 16-17 ***(9226)***. *Julian Isherwood, Daily Telegraph, 2/3/93* ***(9615)***. *Foreign Report, 3/25/93* ***(9667)***.

3/93

The Indira Gandhi Center for Atomic Research (IGCAR) at Kalpakkam announces that it has developed new electrochemical sensors which are designed to monitor the purity of the liquid sodium used as a coolant in fast breeder reactors.
Gopal Raj, The Hindu (Madras), 3/3/93, p. 17; in JPRS-TND-93-012, 5/4/93, p. 15 ***(9677)***.

4/93

India announces that it has "come of age" in nuclear power technology thanks to a new monazite-based fuel cycle for fast breeder reactors. The technology uses a blanket of thorium produced from the beach sands of Kerala. India also announces the development of a 200 MW advanced heavy water reactor which would derive most of its energy from thorium while minimizing the use of plutonium.
Cecil Victor, Patriot (New Delhi), 4/10/93, p. 5; in JPRS-TND-93-019, 6/22/93, p. 9 ***(9642)***. *Sunday Times of India (Bombay), 2/21/93, p. 6; in JPRS-TND-93-010, 4/16/93, p. 23* ***(9641)***.

4/93

P. Rodriguez, director of India's Indira Gandhi Centre for Atomic Research, announces that the new 30 kW Kamini research reactor will use uranium alloy fuel made from U-233, and will be commissioned in 1993.
Nuclear Engineering International, 4/93, p. 6 ***(9639)***.

4/93

India's Department of Atomic Energy announces that it is planning to keep the Tarapur Boiling Water Reactors (BWRs) running by using mixed oxide fuel (MOX) instead of enriched uranium. India announces that production of oxide rods for the BWRs will begin in the near future, and that it plans to build another reprocessing plant at Kalpakkam.
Hindu (Madras), 4/29/93, p. 11 ***(9535)***.

4/93

K. Balaramamurthy, chief executive of the Nuclear Fuel Complex (NFC), states that India is now able to produce and export zirconium alloy tubes as well as other vital nuclear reactor components; the U.S. and Canada are the only other countries with this capability.
Times of India (Bombay), 4/27/93, p. 18; in JPRS-TND-93-022, 7/12/93, p. 11 ***(9545)***.

INDIA WITH GERMANY

1992

Leybold AG of Germany refuses to sell an ore smelting furnace to India despite the fact that the sale has been approved by Germany authorities.
Juergen Salz, VDI Nachrichten (Duesseldorf), 1/29/93, p. 5; in JPRS-TND-93-010, 4/16/93, p. 57 ***(9589)***.

2/93

German Chancellor Helmut Kohl states that Germany will engage in bilateral talks with India in an attempt to persuade India to join the NPT. Kohl states that India's signing of the NPT "would be beneficial to Indo-German economic and technical cooperation." An Indian source states that India's decision to sign the NPT would only affect technological transfers and would not influence German investment and trade in India.
The Hindu (Madras), 3/20/93; in JPRS-TND-93-010, 4/16/93, p.57 ***(9948)***.

INDIA WITH IAEA

2/93

By this date, the IAEA has received notification from India that it will accept the

Agreement to Extend the Regional Cooperation for Research, Development and Training Related to Nuclear Science and Technology, 1987.
IAEA Information Circular, INFCIRC/167/add.16, 4/93, p. 1 ***(9450).***

2/93

India reports uranium resource information to the IAEA/OECD Nuclear Energy Agency "Red Book" for the first time.
Nuclear News, 2/93, pp. 72-73 ***(9193)****.*

India with Iran

1/93

An Israeli periodical states that Iran's nuclear research program has received technical assistance from India.
Shlomo Papirblatt, Yedi'ot Aharonot (Tel Aviv), 1/15/93, pp. 12-13; in JPRS-TND-007, 3/5/93, pp. 14-16 ***(9561)****.*

4/93

Iran expresses interest in India's new monazite-based fuel cycle technology for fast breeder reactors. The technology uses a blanket of thorium produced from the beach sands of Kerala.
Cecil Victor, Patriot (New Delhi), 4/10/93, p. 5; in JPRS-TND-93-019, 6/22/93, p. 9 ***(9642)****.*

India with Japan

1/4/93

Japanese government officials declare that Japan may use its foreign aid program as a lever against India and Pakistan to halt their "alleged" nuclear weapons programs**.**
Kyodo (Tokyo), 1/14/93; in JPRS-TND-93-002, 1/15/93, p. 5 ***(9842)****.*

3/93

During a meeting in New Delhi, Japan and India agree that (1) potential solutions to the nuclear security issue outside of the NPT could be explored,(2) any solution must include the PRC,and (3)equal concern be shown to all countries in such an agreement.
The Hindu (Madras),4/5/93,p. 9;in JPRS-TND-93-016, 6/7/93, p. 14 ***(9947)****.*

4/1-4/2/93

Japanese Deputy Foreign Minister Kunihiko Saito and Indian Foreign Secretary J.N. Dixit meet in India to discuss nuclear proliferation and arms control.
Nucleonics Week, 4/8/93, p. 15 ***(9747)****. The Hindu (Madras), 4/5/93, p. 9; in JPRS-TND-93-016, 6/7/93, p. 14* ***(9947)****.*

India with Multi-Country Group

4/93

Several South East Asian nations show interest in India's new monazite-based fuel technology for fast breeder reactors. The technology uses a blanket of thorium produced from the beach sands of Kerala.
Cecil Victor, Patriot (New Delhi), 4/10/93, p. 5; in JPRS-TND-93-019, 6/22/93, p. 9 ***(9642).***

India with Pakistan

1/4/93

Pakistan and India exchange lists of their nuclear sites for the second year in a row in compliance with a 1988 agreement of nonaggression toward each other's nuclear installments. Neither India nor Pakistan discloses the contents of the lists to outside sources.
Reuter, 1/4/93 ***(9676).*** *The Hindu, 3/19/93, p. 8; in JPRS-TND-93-0015, 5/25/93, p. 20* ***(9934)****.*

3/93

Former Pakistani Prime Minister Benazir Bhutto denies reports made by Seymour Hersh in an article in the New Yorker that Pakistan and India came very close to nuclear war during their crisis over the Himalayan state of Kashmir in 1990. Hersh based his conclusions on interviews with top U.S. officials such as Deputy National Security Advisor Robert Gates. Prime Minister Bhutto states that "the two countries present a volatile situation which needs to be diffused. But it is incorrect to state that we were close to nuclear war in 1990."
UPI, 3/23/93; in Executive News Service, 3/22/93 ***(9626)****. Washington Times, 3/22/93, p. A5* ***(9274)****. Reuter,3/23/93; in Executive News Service,3/23/93* ***(9626)****.*

India with PRC

4/93

China is reportedly interested in India's new fast breeder reactor technology, which employs a new monazite-based fuel cycle. The new technology uses a blanket of thorium produced from the beach sands of Kerala.
Cecil Victor, Patriot (New Delhi), 4/10/93, p. 5; in JPRS-TND-93-019, 6/22/93, p. 9 ***(9642).***

India with Russia

1/93

The Russian Federation and the Republic of India sign the "Treaty of Friendship and Cooperation Between the Russian Federation and the Republic of India." Under Article Four of the treaty, the two parties agree that the process of nuclear and conventional disarmament should be accelerated.
Itar-Tass, (Moscow), 1/28/93; in FBIS-SOV-93-018, 1/29/93, p. 5 ***(9827).***

3/93

Under an agreement inherited from the former Soviet Union, India and Russia hold talks on building a nuclear power plant in India. The plant would consist of two pressurized water reactors.
Reuter, 3/31/93; in Executive News Service, 3/31/93 ***(9607).***

4/93

The proposed 2,000 MW Kundankulam nuclear power plant in southern India is being scaled down to 500 MW because of the "continuing uncertainty about Russian aid and limited domestic resources." Two 1,000 MW VVER-1000s were built at Kundankulam, but because of the funding problems, India is likely to build either one 500 MW PWR of indigenous Indian design.
Neel Patri, Nucleonics Week, 4/15/93, pp. 13-14 (10093).

India with South Korea

4/93

K. Balaramamurthy, the Indian Chief Executive of the Nuclear Fuel Complex (NFC), announces that India is now able to pro-

duce and export zirconium alloy tubes as well as other vital nuclear reactor components. Balaramamurthy adds that the NFC plans to export its technology. South Korea is among the countries that have expressed an interest in purchasing it.
The Times of India (Bombay), 4/27/93, p. 18; in JPRS-TND-93-022, 7/12/93, p. 11 ***(9545)***.

India with Thailand

4/93

India's Prime Minister P.V. Narasimha Rao meets with Prime Minister of Thailand Chuan Leekpai for a discussion of economic issues, including possible cooperation in the generation of nuclear energy.
Denholm Barnetson, UPI, 4/9/93; in Executive News Service, 4/9/93 ***(9825)***.

4/93

Thailand requests nuclear power technology from India following India's announcement of a new monazite-based fuel cycle for fast-breeder reactors. The technology uses a blanket of thorium produced from the beach sands of Kerala.
Cecil Victor, Patriot (New Delhi), 4/10/93, p. 5; in JPRS-TND-93-019, 6/22/93, p. 9 ***(9642)***.

India with United States

4/15/93

In a letter responding to a 3/24/93 article in the Washington Times, K. Sibal, India's deputy chief of mission at the Indian embassy in Washington, denies allegations that India received a supercomputer from the U.S. for nuclear testing. Sibal states that the supercomputer was purchased by India from the U.S. for weather prediction purposes only, and is under strict, mutually agreed-upon safeguards.
K. Sibal, Washington Times, 4/15/93, p. 62 ***(9546)***.

IRAN

Internal Developments

12/92

The CIA reports that Iran's nuclear weapons program is progressing and that by the year 2000 Iran could produce a nuclear bomb. Iran denies the allegation and states that its nuclear program is intended for peaceful purposes.
Claude van England, Christian Science Monitor, 2/18/93, p. 7 ***(9701).***

1/31/93

Iranian President Ali Akbar Hashemi Rafsanjani denies Western reports that Iran is trying to build a nuclear weapon, declaring that Iran "cannot afford to purchase [and] will never try to purchase" nuclear bombs.
Caryle Murphy, Washington Post, 2/1/93, pp. A12, A15 ***(9560).***

2/93

CIA Director James Woolsey states that the U.S. is concerned about Iran's nuclear potential, even though Iran is still 8 to 10 years away from being able to produce its own nuclear weapons. Woolsey says that Iran could become a nuclear power sooner if it acquires assistance from abroad.
New York Times, 2/25/93, p. A5 ***(9737).***

3/14/93

The secretary of Iran's Supreme Council for National Security, Hassan Ruhani, declares on a BBC radio broadcast that obtaining nuclear weapons would threaten the security of Iran**.** Ruhani denies accusations that Iran is trying to acquire nuclear weapons, and states that Iran is always prepared to have the IAEA visit Iranian nuclear facilities.
*David Watts, Times (London), 3/15/93****(9557).***

3/93

The head of Iran's Atomic Energy Organization, Reza Amrollahi, denies allegations by Western intelligence sources that Iran is trying to acquire nuclear weapons and declares, "We don't have a bomb, nor are we seeking one -- we oppose nuclear weapons because of our convictions." He also states that Iran has completed work on five out of twelve projects for finding uranium and says that Iran hopes to produce and export uranium in the future.
Reuter, 3/13/93; in Executive News Service, 3/13/93 ***(9704).***

4/93

According to proliferation expert David Kay, the fluorine gas, magnets, vacuum pumps, and balancing machines that Iran has tried to purchase abroad for use at Tehran's Sharif University of Technology could be used in a gas centrifuge program.
Frontline, Show #1116, 4/13/93 ***(9700).***

Iran with Argentina

2/93

The IAEA confirms that Argentina will export a shipment of 20% enriched uranium to Iran in 1993.
Claude Van England, Christian Science Monitor, 2/18/93, p. 7 ***(9701)****. The Arms Control Reporter, 3/93* ***(9707)***.

Iran with Azerbaijan and Russia

12/92

Reports disclose that uranium stolen from Russia's Chepetsk Mechanical Plant was purchased by buyers from Azerbaijan for 280 million rubles. The Azeri buyers reportedly planned to sell the uranium to Iran for $15 million.
AFP (Paris), 12/13/92; in JPRS-TND-93-001, 1/7/93, p. 25 ***(8960)***.

Iran with European Community

1/93

The G-7 countries are unable to come to full agreement on the scope of export controls on equipment and technology to countries, including Iran, which are of proliferation concern. The U.S. has a more comprehensive list of items for which exports

should be restricted than some of its G-7 partners and would like the other G-7 countries to adopt its list. However, some of the G-7 countries do not want to restrict export of items on the U.S. list which they believe do not pose a threat to proliferation.
Export Control News, 3/11/93 ***(9703).***

IRAN WITH GEORGIA

1/93

Georgian head of state Eduard Shevardnadze and Iranian President Hashemi-Rafsanjani sign a treaty in which both nations agree to support the eventual elimination of weapons of mass destruction. Both nations also state their wish to declare the Persian Gulf and Black Sea a nuclear and chemical weapons-free zone.
Sakartvelos Respublika (Tbilisi), 1/21/93, pp. 1-2; in FBIS-SOV-93-016, 1/27/93, pp. 60-63 ***(9146)****.*

IRAN WITH INDIA

1/93

An Israeli periodical states that Iran's nuclear research program has received technical assistance from India.
Shlomo Papirblatt, Yedi'ot Aharonot (Tel Aviv), 1/15/93, pp. 12-13; in JPRS-TND-007, 3/5/93, pp. 14-16 ***(9561)****.*

4/93

Iran expresses interest in India's new monazite-based fuel cycle technology for fast breeder reactors. The technology uses a blanket of thorium produced from the beach sands of Kerala.
Cecil Victor, Patriot (New Delhi), 4/10/93, p. 5; in JPRS-TND-93-019, 6/22/93, p. 9 ***(9642)****.*

IRAN WITH JAPAN

1/93

Japan is considering new restrictions which will require exporters to obtain prior approval from the Ministry of International Trade & Industry (MITI) when selling machine tools and advanced electronic equipment to Iran, Libya, and North Korea. I f the new restrictions are passed, they will take effect on 1/20/93.
Mednews, 1/11/93, pp. 4-5 ***(9834)****.*

IRAN WITH KAZAKHSTAN

4/93

Intelligence sources say that Iran may have purchased beryllium and 100 tons of uranium, which may include pellets of uranium dioxide, from a nuclear weapons factory north of Alma-Aty, Kazakhstan.
Frontline, Show #1116, 4/13/93, pp. 18 ***(9700).***

IRAN WITH KAZAKHSTAN AND RUSSIA

12/92

A Western intelligence wiretap of a phone conversation between two Iranian diplomats reveals that Iran has purchased four nuclear warheads from Kazakhstan, an accusation which Iran denies. The transcripts reveal that one of Iranian Defense Minister Torkan's contacts arranged for the purchase, but a "technical problem" had prevented the export of the warheads to Iran. Although the codes to arm the warheads were not provided with the missiles, two experts from Russia reportedly arrived to bypass the codes. Iran denies the reports and the U.S. State Department also says they are untrue.
Shlomo Papirblatt, Yedi'ot Aharonot (Tel Aviv), 1/15/93; in JPRS-TND-93-007, 3/5/93, pp. 14-16 ***(9561)****. The Arms Control Reporter, 3/93* ***(9707).*** *Reuter, 7/27/93; in Executive News Service, 7/27/93* ***(9798).*** *Qol Yisra'el (Jerusalem), 3/30/93; in FBIS-SOV-93-64, 3/31/93, p. 71* ***(9197).***

IRAN WITH PAKISTAN

1992

Iran reportedly offers to pay for Pakistan's entire $3.5 billion defense budget in exchange for Pakistan's nuclear technology. Pakistan refuses, but the offer is not withdrawn.
Foreign Report, 3/25/93 ***(9667).***

IRAN WITH PRC

2/93

U.S. intelligence chief James Woolsey says that Iran is developing chemical, biological and nuclear weapons with the assistance of the PRC and Russia.
Jim Wolf, Reuter, 2/24/93; in Executive News Service, 2/25/93 ***(9167).***

2/21/93

Iran and China sign a deal to construct two 300 MW nuclear power plants in the southern part of Iran.
The Arms Control Reporter, 3/93 ***(9707).***

3/93

An Iranian opposition official declares that China is prepared to assist Iran in constructing two 300-MW nuclear reactors at the town of Darkhovin.
David Watts, Times (London), 3/15/93 ***(9557).***

4/13/93

The Islamic Majlis of Iran ratifies a nuclear cooperation agreement between Iran and China which provides for joint work on nuclear power plants, uranium extraction and exploration, and radiation safeguards.
IRNA (Tehran), 4/13/93; in JPRS-TND-93-011, 4/23/93, p. 14(10092).

IRAN WITH RUSSIA

1993

The Director of the Russian Foreign Intelligence Service, Yevgeniy Primakov, states that "red mercury" from the former USSR is exported through Eastern European countries, Scandinavia, Germany, Austria and Switzerland to major corporations involved in nuclear weapons production in Libya, Iran, Iraq, Israel and other Middle East countries. Primakov states that "red mercury," a black market substance alleged to have nuclear weapons applications, does not exist in nature, but could be a code word used by mafia organizations involved in the illegal sale of precious metals, including osmium, uranium, indium and plutonium.
All contraband samples of "red mercury"

seized thus far have been regular mercury, lead or some other substance.
Pravda (Moscow), 4/17/93, pp. 1-2; in JPRS-TND-93-012, 5/4/93, pp. 21-28 ***(9649)***.

2/93

U.S. intelligence chief James Woolsey says that Iran is developing nuclear weapons with the assistance of the PRC and Russia.
Jim Wolf, Reuter, 2/24/93; in Executive News Service, 2/25/93 ***(9167).***

3/93

Russia agrees to build a nuclear power plant in Iran which will have two modernized pressurized water reactors. The plant is expected to take 7-8 years to construct.
Reuter, 3/31/93; in Executive News Service, 3/31/93 ***(9607).***

4/13/93

The Islamic Majlis of Iran ratifies an agreement between Iran and Russia which provides for cooperation on nuclear research including joint work on research reactor development, "the production of components and the material needed for nuclear reactors, and research in laser production technology and application." The Iranian Atomic Energy Organization and the Russian nuclear energy ministry will sign the accords.
IRNA (Tehran), 4/13/93; in JPRS-TND-93-011, 4/23/93, p.14 (10092). Hamshahri (Tehran), 4/14/93, p.2; in JPRS-TND-93-012 (10092).

Iran with South Africa

4/93

Western military officials have expressed concern that when the African National Congress (ANC) takes power, South Africa might sell nuclear technology and materials to Iran "in payment for old debts." The ANC has termed this concern "far-fetched."
Bulletin of the Atomic Scientists, 4/93, pp. 32-37 ***(9625).***

Iran with Tajikistan

3/93 Reports allege that Iran is importing nuclear materials or weapons from Tajikistan.
*David Watts, Times (London), 3/15/93****(9557).***

Iran with United Kingdom

3/1/93 British Foreign Secretary Douglas Hurd announces that the U.K. is tightening its export controls on dual-use technology and military related equipment to Iran. Under the new British export controls, the Department of Trade and Industry will refuse to grant licenses for export to Iran for banned nuclear or military items listed on an international roster.
Jimmy Burns and Gillian Tett, Financial Times, 3/2/93, p. 8 ***(9559).***

Iran with United States

1/4/93

The U.S. Commerce Department blocks a shipment to Iran of a sophisticated IBM ES9000 computer with both civilian and military applications**.** Reza Zandian and Charles Rieger, the owner and manager, respectively, of two computer firms, are arrested for violating the Export Administration Regulations by supplying the $2 million computer. Investigations by the U.S. Commerce Department of suspected illegal exports to Iran have increased by 700% during the past 5 years, with 140 investigations now underway.
Frontline, Show #1116, 4/13/93 ***(9700).*** *Export Control News, 1/28/93, p. 10* ***(9705).***

4/93

A news report states that Iran's Sharif University imported $1.4 million worth of computers from the U.S. firm Digital Equipment Corporation. The shipment received the approval of the U.S. State Department, although the U.S. Department of Defense and an interagency subgroup which deals with controls of nuclear exports recommended that it not be allowed. Another U.S. firm, AST Research, also sold a computer to Iran's Sharif Institute.
Frontline, Show #1116, 4/13/93 ***(9700).***

IRAQ

Internal Developments

12/92

An Iraqi dissident group reports that Iraq is executing Iraqi atomic scientists because Saddam Hussain is afraid the scientists will flee and reveal Iraq's secret arms procurement network. According to the Supreme Assembly of the Islamic Revolution in Iraq, executions were ordered following protests by scientists over the assassination of Iraqi Atomic engineer Mu'ayyad al-Janabi.
Voice of Iraqi People, 12/27/92; in JPRS-TND-93-001, 1/7/93, p. 16 ***(9904)***.

1/93

According to experts, the Iraqi weapon facilities Iskandariya, Hamath, Hatteen, Fallouja, and the Nasr State Establishment still remain intact. Iskandariya is a foundary which is believed to have cast steel casements for possible Iraqi nuclear weapons use. Hamath, near Tuwaitha, is an Iraqi magnet-test facility and is believed to be "a key component of Iraq's effort to enrich uranium." A calutron and magnets were stored at the Fallouja complex.
Melissa Healy, Los Angeles Times, 1/18/93, pp. A1, A25 ***(9540)***.

1/93

It is reported that approximately 7,000 Iraqi technicians and scientists participated in the Iraqi nuclear program.
Bill Gertz, Washington Times, 1/18/93, p.A6 ***(9594)***.

1/17/93

U.S.-led allied forces bomb nuclear-related facilities at the Zaafarniyah machining complex in southeast Baghdad. Zaafarniyah was one of six main centers for Iraqi nuclear weapons development. The heavy machining plant known as Al Rabee is hit and heavily damaged. Al Rabee, along with another facility at Zaafarniyah, Al Dijjla, are believed to have possessed "coil-winding, chassis assembly, computer aided design, printed circuit board fabrication and con-

trol system design and assembly" capabilities. Al Dijjla is not hit in the attack. Four facilities at Zaafarniyah containing high-technology welding, casting for huge magnets and a materials workshop are destroyed; another materials workshop and main fabrication building are "severely damaged"; and a coil production workshop is "moderately damaged." One of the buildings hit in the attack houses high-technology machinery, such as computer-controlled lathes and multi-axis milling machines. UNSCOM officials say that Iraq had already destroyed calutron vacuum boxes, uranium isotope collection devices, and specialized machine tool fixtures. In addition, inspectors tagged heavy lathes and "five high-precision milling machines" for later destruction. The tools at Al Rabee were designated by the IAEA as relevant components in the production of gas ultra-centrifuges for the enrichment of uranium. According to an inventory compiled by the IAEA, 13% of all Iraqi nuclear-related machines were located at Al Rabee.

Mark Hibbs, Nucleonics Week, 1/21/93, pp. 11-12 ***(9543)****. Mednews, 1/25/93, pp. 1-3* ***(9621)****.*

1/27/93

An IAEA inspection team visits the bombed Al Rabee facility and finds thousands of people and hundreds of pieces of cleaning and construction equipment. Experts believe the equipment is there to refurbish the site and have it operating within a few months.

U.N. Security Council document S25411, Annex, 3/13/93 ***(9598)****.*

3/17/93

U.N. inspector Dimitri Perricos states that Iraq reopened its high-tech engineering plant at Zaafarniyah that was bombed in 1/93. The plant was used in Iraq's electromagnetic separation program for uranium enrichment but was converted to civilian use after the Gulf War.

Reuter, 3/11/93; in Executive News Service, 3/11/93 ***(9908)****. Leon Barkho, Reuter, 3/18/93; in Executive News Service, 3/18/93* ***(9908)****.*

IRAQ WITH ALGERIA

3/93

A Russian Foreign Intelligence Service report suggests that Algeria is establishing contacts with Iraq in order to obtain "technical secrets" and special equipment. It states that Algeria is suspected of assisting Iraq with the concealment and evacuation of nuclear fuel stocks, nuclear engineering specialists, and engineering forms and records prior to IAEA inspections.

Report by the Russian Foreign Intelligence Service (Moscow), 1993; in JPRS-TND-93-007, 3/5/93, p. 21 ***(9476)****.*

IRAQ WITH BRAZIL

1/93

Brazil is suspected of providing Iraq with a design for centrifuges and also of supplying Iraq with an actual centrifuge.

David Albright and Mark Hibbs, The Bulletin of Atomic Scientists, 1/93 ***(9624)****. Mednews, 1/25/93, pp. 1-3* ***(9621)****.*

IRAQ WITH BULGARIA

1/93

A Nuclear Engineering International article clarifies that the one hundred forty "plutonium disks" stolen from the Bulgarian company Electrocommerce contained no more than 100 g of plutonium-239. Earlier reports claimed that 80 kg of Pu-239 were seized and intended to be sold to Iraq for $80 million. According to later reports by Bulgarian officials, the amount of stolen Pu-239 is "far less" than the amount needed for a bomb and there is no evidence the material was headed for Iraq.

Nuclear Engineering International, 1/93, p. 13 ***(9924)****.*

IRAQ WITH GERMANY

12/91

German firms are said to have supplied Iraq with "fortified magnets and housings" sufficient to build 10,000 centrifuges.

Stephen Kinzer, New York Times, 1/24/93, p. A3 ***(9375)****.*

1/93

The IAEA is said to suspect that Iraq could be hiding an underground plutonium reactor and a uranium enrichment "cascade" with centrifuges imported from China, Brazil, and Germany.

Mednews, 1/25/93, pp. 1-3 ***(9621).***

2/93

U.N. Security Council report number S23947 states that C Plath (Germany) manufactured small components for Iraq's centrifuge prototypes.

Nuclear Engineering International, 2/93, p. 7 ***(9542)****.*

3/93

Two co-managers of H & H Metalform GMBH are charged with supplying gas ultracentrifuge technology to Iraq in violation of German export laws.

Terence Roth, Wall Street Journal, 3/25/93, p. A10 ***(9906)****.*

IRAQ WITH IAEA AND UNITED NATIONS

1/93

The deputy head of the IAEA, Maurizio Zifferero, states that Iraq will be five to seven years away from producing an atomic bomb if the U.N. embargo is lifted, inspections are ended, and Iraq is allowed access to unlimited financial resources. Zifferero's comments come after a week-long inspection of sites in and around Baghdad, which was concluded on 1/30/93. Zifferero says that with the aid of 80 foreign suppliers, Iraq was two to three years from producing one or two bombs a year. Although Iraq claims that the list of 80 firms represents 90% of its foreign suppliers, Zifferero says that this is an exaggeration and that inspectors will press for the remaining names. Zifferero admits that there is little evidence to suggest that an underground Iraqi plutonium reactor exists.

Alberto Stabile, La Republica (Rome), 1/27/93, p. 15; in JPRS-TND-93-004, 2/5/93, p. 22 ***(9531)****. Chistopher Walker, Times (London), 1/26/93* ***(9541)****. New York Times, 1/31/93, p. A6* ***(9907)****.*

1/10/93

Iraq bars 70 U.N. inspectors traveling from Bahrain from entering Iraq on non-Iraqi

IRAQ

planes. This ban is a violation of the U.N. ceasefire agreement.
Youssef M. Ibrahim, New York Times, 1/11/93, p. A6 ***(9909)***.

1/21/93

Two U.N. inspection teams are scheduled to fly to Iraq to search for nuclear and missile-related equipment.
Reuter, 1/21/93; in Executive News Service, 1/21/93 ***(9910)***.

1/25/93-1/31/93

The IAEA conducts its seventeenth inspection in Iraq. The inspection is led by Mauricio Zifferero and covers ten Iraqi facilities. A short-notice inspection is conducted at Taji-Nassr State Establishment, which houses flow forming machines, and it is determined that all machines and seals are accounted for. The team finds seals on irradiated fuel assemblies at Tuwaitha undisturbed. The inspection team continues to press Iraqi officials for procurement-related information and Iraq agrees to provide any missing information after the IAEA produces a detailed list of items in question.
U.N. Security Council document S/25411, Annex, 3/13/93 ***(9598)***.

2/23/93

U.N. Special Commission spokesman Tim Trevan states that two teams of inspectors left for Iraq on 2/21/93 and 2/22/93. Inspectors carried out on-site visits and surveillance by plane and helicopter to verify that Iraq is not continuing development of nuclear weapons.
UPI, 2/23/93; in Executive News Service, 2/24/93 ***(9912)***.

3/9/93-3/11/93

Dimitri Perricos, head of a 24-member U.N. nuclear inspection team, says that inspectors conducted short-notice inspections of "different state establishments for engineering." Perricos says that of the 28 sites visited, three had been visited for the first time. One of the three sites contained dual-use machine tools that had not been declared to the U.N., but Perricos says that none of the equipment found was "being used for banned activities when inspected." According to Perricos, Iraq promises to provide the U.N. with a list of its foreign suppliers in 15 days. On 3/3/93, Perricos said that Iraq indicated that "they have no will to start [their weapons programs] again."
Reuter, 3/9/93; in Executive News Service, 3/9/93 ***(9911)***. *Leon Barkho, Washington Times, 3/8/93, p. A9* ***(9913)***. *Leon Barkho, Reuter, 3/11/93; in Exective News Service, 3/11/93* ***(9908)***.

4/23/93

The deputy head of the IAEA, Maurizio Zifferero, states that the U.N. is convinced that Iraq is not conducting any nuclear activity. Zifferero's comments come as a U.N. team is arriving in Baghdad with plans to remove approximately 40kg (86lbs.) of uranium fuel from the former Iraqi nuclear facility in Tuwaitha. This shipment represents the last remaining weapons-grade uranium known to exist in Iraq. In 6/92 the U.N. removed from Iraq approximately 12kg (26 lbs.) of highly-enriched uranium that had not been processed.
Leon Barkho, Reuter, 4/23/93; in Executive News Service, 4/23/93 ***(9529)***. *Reuter, 4/19/93; in Executive News Service, 4/19/93* ***(9529)***. *Gulf News, 4/25/93, p. 5* ***(9529)***.

4/30/93

A 14-member U.N. inspection team arrives in Baghdad to inspect Iraqi waters for signs of nuclear activity and examine "dual-use" equipment.
Leon Barkho, Reuter, 4/30/93; in Executive News Service, 4/30/93 ***(9544)***.

IRAQ WITH IAEA AND RUSSIA

4/93

Russia wins a $20 million contract from the IAEA to reprocess 80 lbs of fuel retrieved from destroyed Iraqi nuclear reactors. Russia agrees to take responsibility for the reprocessing and the resulting nuclear waste. Russia may reprocess the fuel at a military plant near Tomsk.
Roger Highfield, Daily Telegraph, 420/93 ***(9586)***.

IRAQ WITH JAPAN

1/3/93

IAEA officials confirm that Japanese companies have exported precision instruments to Iraq, including metal surface grinding tools used to manufacture uranium concentration equipment, measuring devices, and high-speed cameras. Fewer than 10 companies were involved in the transactions; their names have been given to the Japanese government.
Kyodo (Tokyo), 1/30/93; in JPRS-TND-93-004, 2/5/93, p. 23 ***(9548)***.

IRAQ WITH PRC

1/93

The IAEA is said to suspect that Iraq could be hiding an underground plutonium reactor and a uranium enrichment "cascade" with centrifuges imported from China, Brazil, and Germany.
Mednews, 1/25/93, pp. 1-3 ***(9621).***

IRAQ WITH RUSSIA

1993

The Director of the Russian Foreign Intelligence Service, Yevgeniy Primakov, states that "red mercury" from the former USSR is exported through Eastern European countries, Scandinavia, Germany, Austria and Switzerland to major corporations involved in nuclear weapons production in Libya, Iran, Iraq, Israel and other Middle East countries. Primakov states that "red mercury," a black market substance alleged to have nuclear weapons applications, does not exist in nature, but could be a code word used by mafia organizations involved in the illegal sale of precious metals, including osmium, uranium, indium and plutonium. All contraband samples of "red mercury" seized thus far have been regular mercury, lead or some other substance.
Pravda (Moscow), 4/17/93, pp. 1-2; in JPRS-TND-93-012, 5/4/93, pp. 21-28 ***(9649)***.

IRAQ WITH UNITED KINGDOM

1992

A trial in the U.K. reveals that in 1987 British intelligence apparently knew that the U.K. firm Matrix Churchill provided ma-

chine tools to Iraqi arms factories. However, in the U.S., the CIA claims to have been notified much later.
Richard Norton-Taylor, The Guardian, 1/28/93 ***(9528)***.

2/93

A report from Nuclear Engineering International claims that according to a contract code-named K-1000, the U.K. firm Matrix Churchill produced 34 centrifuge components for the Badr General Establishment, a state-owned company involved in Iraq's nuclear weapons program.
Nuclear Engineering International, 2/93, p. 7 ***(9542)***.

Iraq with United States

4/93

The U.S. Commerce Department's Inspector General announces that a list of U.S. high-technology exports to Iraq was modified to hide the fact that much of the equipment had a military use. The list, consisting of the Commerce Department's computer printouts of U.S. export licenses granted for $1.5 billion worth of high-technology equipment was altered in 68 instances.
Neil Lewis, New York Times, 4/16/93, p. A10 ***(9445)***.

ISRAEL

Internal Developments

1/93

Israeli Foreign Minister Shim'on Peres said that Israel is willing to allow Arab countries to inspect its nuclear, chemical and biological facilities once a Middle East peace agreement is signed. Peres also called on all countries in the region to construct a mutually verifiable nuclear-free zone.
Jerusalem Television Network (Israel),1/13/93; in JPRS-TND-93-003, 1/27/93, p. 13 ***(9616)***.

1/93

A report released by Yevgeny Primakov, head of the Russian Foreign Intelligence Service, states that Israel's production of fissionable plutonium could reach 44 to 88 pounds (20 to 40 kg) per year. The report claims Israel may currently have 100 to 200 nuclear weapons. Israel is said to use a heavy water reactor and an irradiated reprocessing plant, built with French assistance, to manufacture weapons-grade plutonium outside IAEA safeguards.
Julian Isherwood, Daily Telegraph, 2/3/93 ***(9615)***.
Jim Wolf, Reuters, 2/24/93; in Executive News Service, 2/25/93 ***(9924)***.

2/93

A study conducted by the Stockholm Peace Research Institute finds that Israel has produced ninety nuclear warheads and will have enough weapons-grade plutonium and highly-enriched uranium to produce 95 nuclear warheads by 1995.
Julian Isherwood, Daily Telegraph, 2/3/93 ***(9615)***.

Israel with Russia

1993

The Director of the Russian Foreign Intelligence Service, Yevgeniy Primakov, states that "red mercury" from the former USSR is exported through Eastern European countries, Scandinavia, Germany, Austria and Switzerland to major corporations involved in nuclear weapons production in Libya, Iran, Iraq, Israel and other Middle East countries. Primakov states that "red mercury," a black market substance alleged to have nuclear weapons applications, does not exist in nature, but could be a code word used by mafia organizations involved in the illegal sale of precious metals, including osmium, uranium, indium and plutonium. All contraband samples of "red mercury" seized thus far have been regular mercury, lead or some other substance.
Pravda (Moscow), 4/17/93, pp. 1-2; in JPRS-TND-93-012, 5/4/93, pp. 21-28 ***(9649)***.

4/93

Designers at the Kurchatov Institute sign an initial contract to provide Israel with a turn-key, floating, nuclear-powered desalinization plant. Russian personnel may be used to run the plant.
Moscow News, 4/2/93, p. 5 ***(9132)***.

Israel with South Africa

3/93

South African President de Klerk denies ANC allegations that the South African nuclear weapons program was developed with Israeli assistance.
Washington Post, 3/25/93, p. A1, A31 ***(9627)***.

3/93

Four days after the South African disclosure of its nuclear weapons program, the City Press of South Africa reports that in 1977 and 1978, Israel supplied South Africa with 30 grams of tritium, code named "Teeblare," and, in turn, Israel received 50 tons of yellowcake from South Africa. Another newspaper reports that the South African government had tactical nuclear weapons and had apparently developed its G5 and B6 howitzer guns to launch them.
Israeli Foreign Affairs, 4/13/93, vol. 1. IX No.3, p. 3 ***(9916)***.

Israel with South Korea

4/24/93

Israel's daily newspaper, Yedi'ot Aharonot, reports that South Korean intelligence officials have recently visited with Israeli military officials in secret to obtain information about the Israeli air bombing raids against Iraqi nuclear facilities in 1981. In return for this information, South Korea is providing Israel with intelligence information concerning North Korea's alleged weapons sales of the Nodong No. 1 missile to Iran and Syria. It is believed that Director General of Israel's Defense Ministry General, David Ivri, is scheduled to visit South Korea in 5/93.
Pae Myong-pok, Chungang Ilbo (Seoul), 4/26/93; in FBIS-EAS-93-078, 4/26/93, p. 35 ***(9949)***.

Israel with United States

1992

The U.S. and Israel begin secret talks aimed at negotiating an end to Israel's production of weapons-grade plutonium at the Dimona nuclear reactor. One U.S. offficial says Israel is willing to stop plutonium produc-

tion in exchange for keeping current levels of nuclear warheads, which range from low-yield neutron devices to "city-busting" hydrogen bombs that can be delivered by missile, aircraft or artillery.
Seymour Hersh, Los Angeles Times, 2/2/93, p. B7 ***(9619)***.

3/24-3/25/93

An NBC report claims that Hollywood film producer and Israeli citizen Arnon Milchan worked as an arms dealer and sought highly classified information from the U.S. in order to advance the nuclear weapons program in Israel. Two nuclear scientists who worked at Los Alamos testified that Milchen was using MILCO International as a front for Israeli arms deals. Richard Kelly Smyth, former MILCO president, was charged by U.S. authorities for exporting 810 krytons to Israel in 1985. Smyth fled the U.S.; 469 of the 810 krytons were returned to the U.S.
Israeli Foreign Affairs, 4/13/93, vol. IX No. 3, pp. 7-8 ***(9943)***.

JAPAN

Internal Developments

1/22/93

The executive director of Japan's Nuclear Safety Engineering Center, Mitsuho Hirata, recommends that all of Japan's plutonium be managed by the IAEA.
Naoaki Usui, Nucleonics Week, 2/4/93, p. 18 ***(9907)***.

3/16/93

Japanese experts attending a conference on the Nonproliferation Treaty organized by the American Federation of Scientist and Japan's Tokai University call for an amendment which would require nuclear weapons states to disarm. Toichi Sakata, director of Japan's Science & Technology Agency (STA), says indefinite extension of the NPT without such an amendment would maintain "privileges" for the nuclear weapon states and lead to continued "distrust and dissatisfaction" among non-nuclear weapon states. Hiroyoshi Kurihara, executive director of Japan's Power Reactor & Nuclear Fuel Development Corp. (PNC), says an indefinite extension would be "unnatural." Senior officials of Japan's Foreign Ministry suggest privately that a 25 to 30 year extension would be preferable to an indefinite extension.
Mark Hibbs, Nuclear Fuel, 4/12/93, p. 13 ***(9838)***.

3/19/93

Japan's plutonium recycling policy is discussed at a public forum sponsored by the Japanese newspaper Asahi Shimbun. The meeting is the first public debate between advocates and opponents of Japan's plan to reprocess spent fuel to produce plutonium for use in its fast breeder reactor program.
Naoaki Usui, Nucleonics Week, 4/1/93, pp. 16-17 ***(9848)***.

Japan with Belarus, Kazakhstan, and Ukraine

4/93

Japan announces that it will grant $9 million to Belarus, Kazakhstan, and Ukraine to cover some of the expenses of joining the NPT.
UPI, 4/11/93; in Executive News Service, 4/11/93 ***(9272)***.

Japan with Canada

3/17/93

Officials of the Japan Atomic Energy Research Institute (JAERI) say that the Institute plans to import 10 g of tritium from Canada. A top priority will be placed on safety and security of the shipment, and a panel may be formed to avoid the criticism that accompanied the recent shipment of plutonium from France. The tritium will be used as fuel for the JT-60 experimental fusion device.
Reuter, 3/17/93; in Executive News Service, 3/17/93 ***(9901)***.

Japan with Chile and the IAEA

3/30-3/31/93

The IAEA's public information service and the Chilean Nuclear Energy Commission (CNEC) hold a seminar on energy education in Latin America and the Caribbean region, sponsored by the Japanese government.
IAEA Bulletin, Number 2/93, p. 50 ***(9412)***.

Japan with Eastern Europe

3/93

Japan begins nuclear power plant safety courses for staff from Eastern Europe. Personnel from Bulgaria, the Czech Republic, Hungary, and Slovakia have participated in a general administrator course offered by Japan. The Japan Electric Power Information Center is organizing the program, which is sponsored by the Ministry of International Trade & Industry.
Nuclear Europe Worldscan, 3-4/93, p. 36 ***(9836)***.

Japan with France

1/5/93

The Akatsuki Maru arrives in Japan with a cargo of plutonium reprocessed in France. The plutonium will be used to make fuel for Japan's FBR program. Takao Ishiwatari, chief executive of the group of companies that brought the plutonium to Japan, says that the voyage was successful, but notes that future voyages will be conducted differently so as to avoid the controversy caused in part by the extreme secrecy surrounding the shipment.
Washington Times, 1/5/93, p. A9 ***(9847)***.

1-2/93

Japanese officials express surprise over a request by France's Cogema for Japan's Science & Technology Agency to reclaim vitrified high level radioactive waste by late 1994. Cogema claims the date for the return has been public knowledge for years, and that specifications for the HLW packages were approved by regulatory agencies.
Naoaki Usui and Ann MacLachlan, Nuclear Fuel, 2/1/93, p. 9 ***(9833).***

JAPAN WITH INDIA

1/4/93

Japanese government officials declare that Japan may use its foreign aid program as a lever against India and Pakistan to halt their "alleged" nuclear weapons programs.
Kyodo (Tokyo), 1/14/93; in JPRS-TND-93-003, 1/27/93, p. 5 ***(9842)***.

3/93

During a meeting in New Delhi, Japan and India agree that (1) potential solutions to the nuclear security issue outside of the NPT could be explored, (2) any solution must include the PRC, and (3) equal concern be shown to all countries in such an agreement.
The Hindu (Madras), 4/5/93, p. 9; in JPRS-TND-93-016, 6/7/93, p. 14 ***(9947)***.

4/1-4/2/93

Japanese Deputy Foreign Minister Kunihiko Saito and Indian Foreign Secretary J.N. Dixit meet to discuss nuclear proliferation and arms control.
Nucleonics Week, 4/8/93, p. 15 ***(9747)***. *The Hindu (Madras), 4/5/93, p. 9; in JPRS-TND-93-016, 6/7/93, p. 14* ***(9947)***.

JAPAN WITH INDONESIA

2/93

The Japanese firm New Japan Engineering Consultants is studying the site and technology for a 600 MW nuclear reactor which will be located in the Indonesian province Maria Mountain in central Java.
Reuter, 2/15/93; in Executive News Service, 2/15/93 ***(9824)***.

JAPAN WITH INDONESIA, MALAYSIA, SINGAPORE, SOUTH KOREA, AND THAILAND

3/15/93

Officials of Japan's Ministry International Trade & Industry (MITI) say that MITI may offer expertise on arms export control to Indonesia, Malaysia, Singapore, South Korea, and Thailand as an incentive to join international agreements restricting the spread of weapons of mass destruction. MITI may conduct export control seminars in these countries as early as the fall of 1993, and would also accept trainees. Officials say the countries are able to produce materials and machine tools which can be used to manufacture weapons of mass destruction, but that they do not yet control the export of these items. MITI has received a "generally favorable" response to the proposals.
Kyodo (Tokyo), 3/16/93; in JPRS-TND-93-009, 3/29/93, p. 11 ***(9839)***.

JAPAN WITH IRAN, LIBYA, AND NORTH KOREA

1/93

Japan is considering new restrictions that will require exporters to obtain prior approval from the Ministry of International Trade & Industry (MITI) when selling machine tools and advanced electronic equipment to Iran, Libya, and North Korea. If the new restrictions are passed, they will take effect on 1/20/93.
Mednews, 1/11/93, pp. 4-5 ***(9834)***.

JAPAN WITH IRAQ

1/3/93

IAEA officials confirm that Japanese companies have exported precision instruments to Iraq, including metal surface grinding tools used to manufacture uranium concentration equipment, measuring devices, and high-speed cameras. Fewer than 10 companies were involved in the transactions; their names have been given to the Japanese government.
Kyodo (Tokyo), 1/30/93; in JPRS-TND-93-004, 2/5/93, p. 23 ***(9548)***.

JAPAN WITH MULTI-COUNTRY GROUP

3/93

Japanese officials say that Japan will press for a discussion of alternatives for international management of plutonium taken from dismantled nuclear weapons at the annual G-7 meeting in 6/93.
Mark Hibbs, Nucleonics Week, 4/1/93, pp. 15-16 ***(9708)***.

JAPAN WITH NORTH KOREA

3/12/93

Japanese Prime Minister Miyazawa calls on North Korea to reconsider its decision to withdraw from the NPT. Miyazawa reiterates Japan's policy that normalization of relations could not take place between the countries until North Korea allows international inspection of its facilities. On 3/23/93, a Japanese Foreign Ministry official announces that Japan, the U.S. and South Korea are prepared to take North Korea's refusal of IAEA inspections to the U.N. Security Council if necessary, and Japan later says it will seek U.N. sanctions against North Korea if it fails to meet the IAEA's deadline to allow international inspections.
Don Oberdorfer, Washington Post, 3/18/93; in Executive News Service, 3/18/93 ***(9742)***. *Kyodo (Tokyo), 3/12/93; in JPRS-TND-93-008, 3/22/93, p. 5* ***(9841)***. *Reuter, 3/31/93; in Executive News Service, 3/31/93* ***(9959)***.

3-4/93

Japan solicits China's aid in encouraging North Korea to cooperate with the IAEA.
Mark Hibbs, Nucleonics Week, 4/1/93, p. 14 ***(9819).***

JAPAN WITH PAKISTAN

1/14/93

Japanese government officials declare that Japan may use its foreign aid program as a lever against India and Pakistan to halt their "alleged" nuclear weapons programs.
Kyodo (Tokyo), 1/14/93; in JPRS-TND-93-003, 1/27/93, p. 5 ***(9842)***.

2/93

Japan sends a delegation to Pakistan to discuss new Japanese legislation that will prohibit economic aid to countries suspected of possessing nuclear weapons programs. Pakistani government sources say Japanese Prime Minister Kiichi Miyazawa sent a personal message to Pakistan's Prime Minister Nawaz Sharif concerning Pakistan's

nuclear program, but details of the message were not disclosed. Pakistan received 50 billion yen ($406 million) in aid from Japan in 1991 and had received a pledge from Japan to provide another 50 billion yen in 1992. Another delegation will visit India and Pakistan in 3/93 in an attempt to convince the two nations to sign the NPT.
UPI, 2/23/93; in Executive News Service, 2/23/93 ***(9674)***. *Kyodo (Tokyo), 1/14/93; in JPRS-TND-93-003, 1/27/93, p. 5* ***(9842)***.

JAPAN WITH THE PRC

3/93

Japan begins nuclear power plant safety courses for staff from the PRC. The Japan Electric Power Information Center is organizing the program, which is sponsored by the Ministry of International Trade & Industry.
Nuclear Europe Worldscan, 3-4/93, p. 36 ***(9836)***.

JAPAN WITH RUSSIA

2/93

Japanese Foreign Minister Michio Watanabe states that Japan would consider buying highly enriched uranium from Russia to fuel Japan's breeder reactor, but adds that assistance is contingent on Russia's return of the Kuril islands.
Defence News, 2/15/93, p. 2 ***(9845)***.

3/93

Japan begins courses in nuclear power plant safety for staff of Russian and other former Soviet plants.
Nuclear Europe Worldscan, 3-4/93, p. 36 ***(9836)***.

4/93

Japan's Foreign Minister Kabun Muto asks Russian Foreign Minister Andrei Kozyrev to control Russia's dumping of radioactive waste into the Sea of Japan.
Reuter, 1/13/93; in Executive News Service, 1/13/93 ***(9153)***.

4/93

Japan urges the G-7 members to agree on building nuclear waste facilities in Russia to help store radioactive waste which might otherwise be dumped into the sea.
UPI, 4/11/93; in Executive News Service, 4/11/93 ***(9272)***.

4/93

Japan offers Russia $1.8 billion in loans and grants to upgrade nuclear facilities.
Washington Times, 4/16/93, p. A11 ***(9835)***.

JAPAN WITH SOUTH KOREA

1/6/93

The South Korean government is reportedly considering measures to guard against Japan becoming a nuclear power. According to a secret report by the ROK Ministry of Science and Technology, Japan possessed the technology necessary to build a nuclear weapon as early as 1980. The report recommends that nuclear-related information be regularly exchanged, both as a check against Japan's development of a weapons capability, and as a means to learn more about Japan's nuclear energy technology. Chong Tae-ik, Director of the Americas Department of the Ministry of Foreign Affairs, states that while the South Korean government is concerned about safety in Japan's plan to ship plutonium from Europe for stockpiling over the next 30 years, the ROK government does not think Japan is likely to "arm itself with nuclear weapons."
Tong-A Ilbo (Seoul), 1/6/93, p. 1; in JPRS-TND-93-002, 1/15/93, pp. 8-9 ***(9849)***.

1/18-1/19/93

South Korea and Japan participate in a meeting of the Joint Nuclear Consultative Committee. The countries are scheduled to discuss nuclear conditions and policies, North Korea's nuclear development, the establishment of a stronger nuclear diplomacy, and Japan's stockpile of plutonium.
Yonhap (Seoul), 1/19/93; in JPRS-TND-93-003, 1/27/93, p. 8 ***(9552)***.

JAPAN WITH THE UNITED STATES

1/14/93

Edlow International of the U.S. is issued a license to export 4.15% LEU to Japan.
U.S. Nuclear Regulatory Commission Export License Report, 1/93 ***(10089)***.

2/93

General Electric of the U.S. is issued a license to export 4.45% LEU to Japan, and Mitsubishi is issued a license to export 4.15% LEU.
U.S. Nuclear Regulatory Commission Export License Report, 2/93 ***(10089)***.

3/93

Marubeni American Corporation is issued a license to export 4.95% LEU to Japan, and Mitsubishi International is issued a license to export 3.85% LEU, 4.05% LEU, and 4.15% LEU, and natural uranium. Mitsui and Co. is issued two licenses to export 4.45% LEU anad 4.95% LEU.
U.S. Nuclear Regulatory Commission Export License Report, 3/93 ***(10089)***.

4/93

Edlow International is issued three license to export 4.15% LEU to Japan, and Mitsui and Co. is issued a license to export 4.65% LEU, 4.95% LEU, and natural uranium.
U.S. Nuclear Regulatory Commission Export License Report, 4/93 ***(10089)***.

4/93

Japan's Atomic Energy Research Institute (JAERI) and the U.S. Sandia National Laboratories begin a second phase of testing a remote surveillance system that monitors nuclear material. The Containment and Surveillance Data Authenticated Communication (Casdac) system will support verification of NPT commitments by transmitting data from a monitored site to a remote surveillance system. The U.S. Arms Control and Disarmament Agency provided the software for the system.
Naoaki Usui, Nucleonics Week, 4/1/93, p. 12 ***(9832)***.

LIBYA

LIBYA WITH BULGARIA, RUSSIA, AND UKRAINE

4/15/93

Ukrainian customs officials at the port of Ilichevsk discover an undocumented ship-

ment of 80 tons of nuclear fuel. The fuel allegedly was of Russian origin and was intended to go to Libya after making a port call in Bulgaria. V. Klinkov, deputy chief of Ilichevsk customs, denies having seen the shipment. In a possible explanation for the conflicting reports, A. Savelyev of the Ukrainian Security Service reported that four railroad cars containing rocket fuel, not nuclear fuel, had arrived at the Odessa-Sortirovochnaya railroad station bound for Bulgaria.

Leonid Kapelyushnyy, Izvestiya (Moscow), 4/15/93, p. 1; in JPRS-TND-93- 011, 4/23/93, p. 24 ***(9769)****. Nina Perstneva, Izvestia (Moscow), 4/16/93; in FBIS-SOV-93-075, 4/21/93, p. 52* ***(9967)****.*

LIBYA WITH JAPAN

1/93

Japan is considering new restrictions that will require exporters to obtain prior approval from the Ministry of International Trade & Industry (MITI) when selling machine tools and advanced electronic equipment to Iran, Libya, and North Korea. If the new restrictions are passed, they will take effect on 1/20/93.

Mednews, 1/11/93, pp. 4-5 ***(9834)****.*

LIBYA WITH RUSSIA

1993

The Director of the Russian Foreign Intelligence Service, Yevgeniy Primakov, states that "red mercury" from the former USSR is exported through Eastern European countries, Scandinavia, Germany, Austria and Switzerland to major corporations involved in nuclear weapons production in Libya, Iran, Iraq, Israel and other Middle East countries. Primakov states that "red mercury," a black market substance alleged to have nuclear weapons applications, does not exist in nature, but could be a code word used by mafia organizations involved in the illegal sale of precious metals, including osmium, uranium, indium and plutonium. All contraband samples of "red mercury" seized thus far have been regular mercury, lead or some other substance.

Pravda (Moscow), 4/17/93, pp. 1-2; in JPRS-TND-93-012, 5/4/93, pp. 21-28 ***(9649)****.*

NORTH KOREA

INTERNAL DEVELOPMENTS

1980-89

North Korea carries out 70 nuclear tests and continues to develop detonating technology, according to South Korean Defense Minister Kwon Young-hae.

Michael Breen, Washington Times, 3/17/93, p. A8 ***(9959)****.*

1/27/93

The North Korean Foreign Affairs Ministry states that North Korea will take "necessary self-defensive measures" should the U.S. and South Korea resume the Team Spirit military exercises. The military exercises are scheduled to begin in 1/93 and conclude 4/93, and will involve 190,000 troops, including 50,000 U.S. personnel.

UPI, 1/27/93; in Executive News Service, 1/27/93 ***(9752)****. Kensuke Ebata, Jane's Defense Weekly, 2/6/93, p. 12* ***(9752)****.*

2/8/93

A North Korean Foreign Ministry statement declares that North Korea might take "countermeasures of self-defense" if the U.S. and other countries press for inspections of certain facilities. The refusal is a switch in policy for the North Koreans, who formerly stated that the IAEA inspectors could "travel anywhere in the country."

David E. Sanger, New York Times, 2/9/93, p. A5 ***(9739)****.*

2/12/93

The government-controlled ruling workers party newspaper, Rodong Sinmun, reports that it is "impossible for [North Korea] to implement [its] obligations under the Nuclear Non-proliferation Treaty" due to the insistence of South Korea and the U.S. that the Team Spirit military exercises be held.

Reuter, 2/12/93; in Executive News Service, 2/12/93 ***(9739)****. Washington Times, 2/13/93, p. A2* ***(9739)****. Andrew Gumbel, Reuter, 2/16/93; in Executive News Service, 2/16/93* ***(9739)****.*

3/93

According to defense expert Paul Beaver of Jane's Defence Weekly, North Korea has four to six laboratory nuclear devices. Beaver says that these devices could not be used to launch a strike against its neighbors since North Korea lacks the means of delivery.

Gareth Jones, Reuter, 3/31/93; in Executive News Service, 3/31/93 ***(9959)****.*

3/9/93

North Korean military leader Kim Jong-Il reportedly puts North Korea on a status of "semi-war."

Reuter (Tokyo), 3/17/93; in Executive New Service, 3/17/93 ***(9742)****.*

3/12/93

North Korean Minister of Foreign Affairs Kim Yong Nam issues a statement to the U.N. Security Council announcing the withdrawal of North Korea from the NPT. The North Korean government cites the resumption of Team Spirit military exercises between the U.S. and South Korea, and the 2/25/93 IAEA resolution demanding for special inspections of two North Korean military sites, as reasons for withdrawal. The statement also accuses the U.S. of fabricating intelligence information upon which the IAEA is establishing a basis to enforce special inspections. Radio Japan says that its Korean broadcasts, as well as South Korean radio broadcasts, were jammed for the first time by the North Korea government in order to keep North Korean citizens from learning of the withdrawal. The IAEA reminds North Korea of its obligations under the NPT and of its responsibility to respond to the IAEA's request of 2/25/93 to inspect two non-declared sites.

Letter From Kim Yong Nam, DPRK Minister of Foreign Affairs, 3/12/93 ***(9433)****. Reuter, 3/11/93; in Executive News Service, 3/12/93* ***(9629)****. Gus Constantine, Washington Post, 3/12/93, p. A1* ***(9738)****. Gamini Seneviratne, Nucleonics Week, 3/18/93, p. 10* ***(9630)****.*

3/15/93

Dr. Kim Tae-u, a senior researcher at the Korea Institute for Defense Analysis in South Korea, says that it is certain that North Korea possesses six to seven nuclear weapons. He says North Korea appears to have extracted at least 14 to 15 kgs of plutonium

since 10/86, and may now have 40 to 50 kgs of plutonium.
Kanguk Ilbo (Seoul), 3/16/93, p. 1; in JPRS-TND-93-009, 3/29/93, p. 18 ***(9950)***.

4/12/93

According to the weekly newspaper The Golos, North Korea currently produces about 15-18 kg of plutonium per year at its Yongbyon nuclear complex. The newspaper reports that other nuclear facilities to enrich uranium and produce nuclear fuel, which were built for North Korea by China and private companies from France, Australia, Switzerland and other countries in the 1980s, are in full operation.
Yonhap (Seoul), 4/12/93; in FBIS-EAS-93-069, 4/13/93, pp. 27-28 ***(9826)***.

NORTH KOREA WITH IAEA

12/22/92

IAEA Director General Hans Blix asks to be allowed to "'visit,' drill and take samples" at the two undeclared sites suspected to be tied to North Korea's nuclear program. He proposes "to handle it quietly, saying that an informal delegation would visit the DPRK for that purpose." North Korea rejects the request for either formal or informal visits.
United Nations Security Council Document S/25422, 3/17/93, pp. 1-10 ***(9628)***.

1/93

IAEA inspectors find "discrepancies with the timing and number of batches processed" in plutonium samples from North Korea, leading them to suspect that the country has more plutonium than it has reported. The IAEA says that it will be better able to determine how much plutonium has been produced if it can examine the core of the Yongbyon reactor.
Michael R. Gordon, New York Times, 2/1/93, p. A6 ***(9751)***.

1/22/93

Ri Tcheul, the North Korean representative to the U.N., says the IAEA dispute jeopardizes the 1992 safeguards agreement, and that "if the IAEA blocks the way to negotiation or dialogue with us with coercive actions," then North Korea will be justified in taking "self-defensive measures." Ri adds that the IAEA "has constantly violated its commitment to the agreement" by acting on third-party information and by revealing confidential information to the U.S. and South Korea.
Don Oberdorfer, Washington Times, 1/23/93, p. A8 ***(9751)***.

1/26/93-2/6/93

The IAEA's sixth ad hoc inspection team visits North Korea and, according to a 3/15/93 North Korean memorandum, requests clarification of two "inconsistencies in principle": 1) "that the composition and quantity of plutonium the DPRK declared to the IAEA do not correspond to what was calculated by the IAEA" and 2) "that the isotopic composition of plutonium extracted by the Radiochemical Laboratory does not correspond to that of the liquid waste." In response to the first point, North Korean experts presented different results of the analysis. The inspectors said that they had "learned a lot this time and excerpted useful data from the operating records and will reexamine them at the IAEA headquarters and will resume discussion." However, a special inspection was proposed before the team had returned to Vienna. On the second point, North Korea explained on 2/20 and 2/21 why the IAEA's results were incorrect, and, the memo says, the IAEA experts "admitted their mistakes of principle in their calculation," although the IAEA inspectors said they would need to check the data.
United Nations Security Council Document, 3/17/93, pp. 1-10 ***(9628)***.

1/29/93

North Korean Ambassador to Russia, Son Song-pil, warns that the U.S. and South Korean Team Spirit military exercises scheduled for 3/93 may force North Korea to close its nuclear facilities to IAEA inspections. Son Song-pil says that North Korea views the manoeuvres as preparation for potential nuclear war and, under such circumstances, North Korea cannot "fulfill its commitments" to allow IAEA inspections.
Aleksandr Valiyev, ITAR-TASS (Moscow), 1/29/93; in JPRS-TND-93-004, 2/5/93, p. 9 ***(9752)***. *Vazin Kavayev, Radio Moscow,1/30/93; in FBIS-SOV-93-019, 2/1/93, p. 16* ***(9752)***. *Reuter, 1/29/93; in Executive News Service, 2/1/93* ***(9752)***. *UPI, 1/27/93; in Executive News Service, 1/27/93* ***(9752)***. *Kensuke Ebata, Jane's Defence Weekly, 2/6/93, p. 12* ***(9752)***.

2/93

U.S. intelligence believes that two undeclared sites in North Korea, which were visited by IAEA inspectors in 1992 based on intelligence information, are key sites in North Korea's nuclear program, according to Western diplomatic sources. At North Korea's insistence, the 1992 site tour was called a "visit," not an "inspection," and was carried out by IAEA "officials" not "inspectors." IAEA Director General Hans Blix says that the IAEA, through analysis of U.S. reconnaissance satellite photos, has determined that two "off-limits" sites at Yongbyon are nuclear waste processing and storage installations. U.S. intelligence believes that one of the sites houses drums of reprocessed wastes that were separated at a date later than the one North Korea reported to the IAEA. In reference to these findings, CIA Director James Woolsey says on 2/24/93 that it may have been possible for North Korea to manufacture "enough fissile material for at least one nuclear weapon." Western sources state that the quantity of plutonium produced by North Korea can be determined by examining small amounts of liquid high-level waste from the 5 MW reactor at Yongbyon, which would not be made available until 4/93, when fuel is unloaded from the reactor core. A Japanese military expert says that remote sensing data of nuclear sites near Yongbyon provides evidence of small-scale detonations.
Mark Hibbs and Naoaki Usui, Nucleonics Week, 2/4/93, p. 18 ***(9631)***. *Mark Hibbs, Nucleonics Week, 2/11/93, p. 15* ***(9437)***. *Kyodo (Tokyo), 3/10/93; in JPRS-TND-93-008, 3/22/93, p. 14* ***(9851)***. *Mark Hibbs, Nuclear Fuel, 3/1/93, pp. 8-9* ***(9853)***.

2/11/93

IAEA Director General Hans Blix formally asks North Korea to permit a special inspection of two undeclared sites, based upon U.S. intelligence information and upon the analysis of plutonium samples by the IAEA. North Korea is told that it must respond and approve IAEA special inspections by 2/18/93 or an emergency meeting of the

Board of Governors will be called. This decision is a result of informal consultations between several members of the IAEA's Board of Governors and Blix.

Mark Hibbs, Nucleonics Week, 2/18/93, pp. 16-17 ***(9431)****. Mark Hibbs, Nucleonics Week, 2/11/93, p. 15* ***(9437)****.*

2/16/93

The IAEA announces that the analysis of the plutonium taken from North Korea reveals discrepancies and that the material was probably reprocessed after 1990. North Korea announces that the North Korean Minister of Atomic Energy Choi Han will arrive in Vienna later in the week with a group of experts in order "to clarify inconsistencies" before the scheduled Board meeting on 2/22/93.

Mark Hibbs, Nucleonics Week, 2/18/93, pp. 16-17 ***(9431)****.*

2/20-21/93

During closed meetings with the IAEA, North Korean representatives are shown U.S. surveillance photographs and chemical evidence which prove that North Korea has been producing plutonium from nuclear wastes for at least three years starting in 1989. The U.S. surveillance photographs give evidence of a Soviet-style nuclear waste dump for liquid and solid wastes. North Korea reportedly claims that the discrepancies between its report and the results of the isotopic tests occurred because of contamination by material from its 1975 reprocessing campaign. North Korea had previously said that it separated plutonium only once, in 1990, but after the IAEA's revelations it admitted that it had reprocessed "a small quantity" of plutonium in 1975 as well. According to Japanese Foreign Ministry sources, which reported their findings on 2/25/93, North Korea extracted 16-24 kg of plutonium from its nuclear facility at Yongbyon, which operated from 1986-1990.

Mark Hibbs, Nuclear Fuel, 3/1/93, pp. 8-9 ***(9853)****. David E. Sanger, New York Times, 3/13/93, pp. 1,3* ***(9439)****. Kyodo (Tokyo), 3/10/93; in JPRS-TND-93-008, 3/22/93, p. 14* ***(9851)****.*

2/21/93

Choi Han Gun, the North Korean Minister of Atomic Energy, tells IAEA Director General Hans Blix that North Korea will not allow special inspections of the two sites suspected of storing nuclear waste. When China, Russia and Brazil fail to reach a diplomatic consensus, the Board of Governors decides not to report North Korea to the U.N. Security Council. Instead, it adopts a resolution calling for an "essential and urgent" special inspection without delay.

Mark Hibbs, Nucleonics Week, 2/25/93, pp. 16-17 ***(9944)****.*

2/24/93

The IAEA passes a resolution giving North Korea one month to allow inspectors access to two sites suspected of harboring evidence of a nuclear weapons program. The IAEA makes the announcement after four days of deliberations. The IAEA states that North Korea's continued refusal to admit inspectors could lead to "further measures." The IAEA wants to examine the fuel rods from Yongbyon's reactor core because it could provide an indication of the number of times the reactor has been refueled and how much material is available for reprocessing. In 1992, North Korea stated that the equipment used to remove the rods was inoperable and that such a test could not be conducted until 4/93 or 5/93.

Jeffrey Smith, Washington Post, 2/25/93, p. A24 ***(9741)****. Teruaki Ueno, Reuter, 2/26/93; in Executive News Service, 2/26/93* ***(9741)****. Steve Pagani, Reuter, 2/25/93; in Executive News Service, 2/26/93* ***(9741)****. Reuter, 2/26/93; in Executive News Service, 2/26/93* ***(9741)****. Reuter, 2/25/93; in Executive News Service, 2/25/93* ***(9741)****. John J. Fialka, Wall Street Journal, 3/1/93, p. A7B* ***(9741)****. Nuclear News, 4/93, p. 61* ***(9741)****.*

2/25/93

The IAEA Board of Governors adopts a resolution requesting North Korea to provide the IAEA access to, and information on, two additional sites and to implement its 5/92 Safeguards Agreement (INFCIRC/403) by 3/31/93.

IAEA Press Release (PR 9/3/6), 3/18/93 ***(9434)****.*

3/17/93

The IAEA Board of Governors holds an informal meeting to discuss the withdrawal of North Korea from the NPT and the line of action the agency should take. Diplomats from Western countries on the Board note that North Korea used "softening phrases" in its statement of withdrawal, which may indicate that it is looking for a "face-saving way" to resolve the inspection issue and stay in the NPT. An official memorandum, dated 3/15/93, is issued to the president of the U.N. Security Council by the North Korean Ministry of Foreign Affairs concerning IAEA inspections. In the memorandum North Korea argues that the IAEA has misinterpreted information on North Korean facilities and that it is not authorized to carry out inspections of the two undeclared sites.

Gamini Seneviratne, Nucleonics Week, 3/18/93, p. 10 ***(9630)****. United Nations Security Council Document, 3/17/93, pp. 1-10* ***(9628)****.*

3/18/93

The IAEA Board of Governors formally meets to review the developments of the resolution regarding IAEA inspections in North Korea, which was adopted on 2/25/93. The Board confirms that under INFCIRC/403, the Safeguards Agreement with the DPRK "remains in force."

IAEA Press Release (PR 9/3/6), 3/18/93 ***(9434)****.*

4/1/93

The IAEA announces that North Korea is in breach of its safeguards agreement because of its refusal to allow inspections of two suspected sites at Yongbyon, despite the agency's deadline of 3/31/93. Although North Korea finally responded to the IAEA request late on 3/30/93, much doubt exists as to the seriousness of its response. The Board of Governors votes in favor of a resolution calling for the U.N. Security Council to intervene. China forces the Board of Governors into a show of hands and votes against the resolution, along with Libya. India, Pakistan, Syria and Vietnam abstain from the vote. China warns the U.N. not to become involved because it believes a compromise can be reached with North Korea given more time. In response to the IAEA resolution, North Korean envoy in Vienna Kim Gwang-sop says that North Korea cannot accept the IAEA's ruling "because it is too prompt and unreasonable" and that North Korea "cannot but take far stronger and more effective self-defensive measures."

Steve Pagani, Reuter, 4/1/93; in Executive News

NORTH KOREA

Service, 4/1/93 ***(9698)****. Shim Sung-won, Reuter, 4/2/93; in Executive News Service, 4/2/93* ***(9698)****. Lee Su-wan, Reuter, 4/6/93; in Executive News Service, 4/6/93* ***(9698)****. David E. Sanger, New York Times, 4/2/93, p. A2* ***(9698)****. John J. Fialka, Wall Street Journal, 4/2/93, p. A9* ***(9698)****. Steve Pagani, Washington Times, 4/2/93, pp. A1, A10* ***(9698)****. UPI, 4/1/93; in Executive News Service 4/1/93* ***(9698)****. Steve Pagani, Reuter, 4/1/93; in Executive News Service 4/1/93* ***(9698)****. Mark Hibbs, Nucleonics Week, 4/1/93, p. 14* ***(9819)****.*

4/6/93

After a closed-door session with the U.N. Security Council, IAEA Director General Hans Blix says that the council "would like to be patient, restart the dialogue [to] try and induce them to come back and comply with the agreement." Blix also asks the Security Council to provide backing for the IAEA to visit the two suspected sites. Blix adds that North Korea has "given no evidence whatsoever that the sites are important military sites" and "if they are worried, perhaps they could demilitarize them ... while we are looking at them."

Evelyn Leopold, Reuter, 4/6/93; in Executive News Service, 4/6/93 ***(9698)****.*

4/8/93

North Korean Atomic Energy Minister Choe Hak Gun states that the IAEA has violated its safeguards accord with North Korea by reporting North Korea's refusal to allow inspections to the U.N. Security Council.

UPI, 4/8/93; in Executive News Service, 4/8/93 ***(9698)****.*

4/14/93

IAEA Director General Hans Blix says that although North Korea announced its withdrawal from the NPT on 3/12/93, which would terminate its comprehensive safeguards agreement, the possibility still exists for a previous agreement concluded under the IAEA's INFCIRC-66 to come into force. The INFCIRC-66 agreement, which was formerly suspended, covers safeguards for a research reactor supplied to North Korea by the former USSR. Although the IAEA's inspection abilities would be more limited in scope under this agreement, the inspections could be extended to the North Korean "radio-chemical laboratory," if it were determined that spent fuel had been reprocessed there. Blix, who maintains contact with North Korean representatives, says that the IAEA is willing to discuss "managed visits" with North Korea if it felt that inspecting Yongbyon facilities would compromise its security and lead to the forced inspection of other "military sites," as North Korea argues. Although the U.S. and France think Blix should be more aggressive in calling for special inspections in North Korea, Blix says that the IAEA will not take this step "in the absence of excellent information about clandestine nuclear activities."

Ann MacLachlan, Nucleonics Week, 4/22/93, pp. 14-15 ***(9696)****. Abi Sekimitsu, Reuter, 4/14/93; in Executive News Service, 4/14/93* ***(9696)****.*

NORTH KOREA WITH IRAN

3/29/93

Western intelligence sources report that North Korea's ballistic missile program is being financed in part by Iran. Iran allegedly paid North Korea $500 million towards a ballistic missile system capable of delivering nuclear and chemical weapons. North Korea will in turn allegedly provide Iran with an "unspecified number of nuclear bombs" as well as "designs for nuclear-weapons-reprocessing plants."

U.S. News and World Report, 3/29/93, p. 18 ***(9743)****. Washington Times, 4/19/93, p. A2* ***(9743)****. Reuter, 3/21/93; in Executive News Service, 3/21/93* ***(9743)****. Radio Moscow (Moscow), 3/24/93; in FBIS-SOV-93-059, 3/30/93, p. 16* ***(9743)****.*

4/93

A report states that CIA sources believe that Iran has been investing money from its oil revenues into developing its own nuclear program as well as North Korea's. In return, North Korea is supplying Iran with nuclear know-how, technology, equipment, and materials such as enriched uranium.

Foreign Report, 4/22/93 ***(9949)****.*

NORTH KOREA WITH JAPAN

1/93

Japan is considering new restrictions that will require exporters to obtain prior approval from the Ministry of International Trade & Industry (MITI) when selling machine tools and advanced electronic equipment to Iran, Libya, and North Korea. If the new restrictions are passed, they will take effect on 1/20/93.

Mednews, 1/11/93, pp. 4-5 ***(9834)****.*

NORTH KOREA WITH PRC

2/16/93

Diplomatic sources in New York say that IAEA Director General Hans Blix is facing obstacles from China and Russia on the issue of holding a special inspection in North Korea.

Mark Hibbs, Nucleonics Week, 2/18/93, pp. 16-17 ***(9431).*** *Mark Hibbs and Naoaki Usui, Nucleonics Week, 2/4/93, p. 18* ***(9631).***

3/93

State Department nominee and Asian specialist Winston Lord says the U.S. has sought Chinese help in convincing North Korea not to withdraw from the NPT. Chinese Foreign Minister Qian Qichen has asserted that "patient consultation" should be used with North Korea and noted that the NPT did not include punitive measures for states opting to withdraw from the Treaty.

William Scally, Reuter, 3/31/93; in Executive News Service, 4/1/93. Reuter, 3/31/93; in Executive News Service, 3/31/93. Times, 3/24/93 ***(9587).*** *Nucleonics Week, 3/25/93, p. 11* ***(9821).*** *Gareth Jones, Reuter, 3/31/93; in Executive News Service, 3/31/93* ***(9959).***

3-4/93

Japan solicits China's aid in encouraging North Korea to cooperate with the IAEA.

Mark Hibbs, Nucleonics Week, 4/1/93, p. 14 ***(9819).***

4/93

The Golos, a weekly newspaper, reports that between 1960 and 1969, China turned down a North Korean request for help in launching a nuclear weapons program.

Yonhap (Seoul), 4/13/93; in FBIS-SOV-93-069, 4/13/93, pp. 27-28 ***(9826)****.*

4/93

After a request from China, the U.S. offers to participate in high level talks with North Korea to discuss its withdrawal from the NPT.

Naoaki Usui, Nucleonics Week, 4/29/93, p. 13 ***(9697).***

4/1/93 China forces the IAEA's Board of Governors into a show of hands and then votes against a resolution calling for the U.N. to intervene in North Korea. China warns the U.N. not to become involved because it believes a compromise can be reached with North Korea given more time.
Reuter, 4/1/93; in Executive News Service, 4/1/93 ***(9698).***

4/27/93
North Korea cancels diplomatic contacts with China, apparently in response to China's attempts to persuade Pyongyang to rethink its withdrawal from the NPT. North Korea has also posted guards on its border with China "who have shot and killed several Chinese." Chinese diplomats believe that high level and direct discussions between Pyongyang and the IAEA would give Pyongyang an incentive to rethink its position.
Lena H. Sun and Jackson Dieb, Washington Post, 4/28/93 ***(9935).***

NORTH KOREA WITH PRC AND USSR

1960-1969
China and the USSR turn down requests to help North Korea launch a nuclear weapons program, according to the weekly newspaper The Golos, published on 4/12/93.
Yonhap (Seoul), 4/12/93; in FBIS-EAS-93-069, 4/13/93, pp. 27-28 ***(9826)****.*

NORTH KOREA WITH RUSSIA

1992
According to Germany's *Stern* magazine, North Korea acquires 56 kg of plutonium from Russia.
New York Times, 2/25/93, p. A5 ***(9737)****.*

2/16/93
Diplomatic sources in New York say that IAEA Director General Hans Blix is facing obstacles from China and Russia on the issue of holding a special inspection in North Korea.
Mark Hibbs, Nucleonics Week, 2/18/93, pp. 16-17 ***(9431).*** *Mark Hibbs and Naoaki Usui, Nucleonics Week, 2/4/93, p. 18* ***(9631).***

NORTH KOREA WITH SOUTH KOREA

4/1/92
At the second meeting of the Joint Nuclear Control Commission (JNCC), South Korea proposes that regular inspections be carried out on nuclear materials and facilities at least 16 times a year, and that special inspections be conducted on military bases at least 40 times a year. South Korea wants the number of facilities inspected by both parties to be equal. However, North Korea wants the Yongbyon nuclear facility to be the only site inspected, while it wants South Korea to allow inspections of all of the U.S. bases.
Jonah Kaplan, Carnegie Endowment for International Peace, 4/21/93 ***(9699)****.*

5/15/92
At the fourth JNCC meeting, South Korea suggests that special inspections take place 24 hours after notification by one party, in order to expedite the process of denuclearization. Based upon reports from the IAEA, South Korea demands that North Korea terminate its construction of a nuclear reprocessing plant capable of extracting plutonium.
Jonah Kaplan, Carnegie Endowment for International Peace, 4/21/93 ***(9699)****.*

9/16/92
At the ninth JNCC meeting, North Korea accuses the U.S. of shipping nuclear weapons via submarine into the South Korean port of Chinhae.
Jonah Kaplan, Carnegie Endowment for International Peace, 4/21/93 ***(9699)****.*

11/18/92
At the tenth JNCC meeting, North Korea reiterates that all channels of inter-Korean dialogue will be closed unless the South announces the cancellation of the Team Spirit exercises by the end of 11/92. South Korea repeats that it will cancel the exercises based upon the willingness of North Korea to adopt guidelines for mutual nuclear inspections by the end of 11/92 and allowing the first inspections by 12/20/92.
Jonah Kaplan, Carnegie Endowment for International Peace, 4/21/93 ***(9699)****.*

11/27/92
At the eleventh JNCC meeting, North Korea suspends any further joint committee dialogue with South Korea, with the exception of the JNCC meetings.
Jonah Kaplan, Carnegie Endowment for International Peace, 4/21/93 ***(9699)****.*

12/9/92
At the twelfth JNCC meeting, South Korea states that it will not cancel the Team Spirit exercises until both parties agree to conduct their first mutual inspections before the prime ministers meet later this month.
Jonah Kaplan, Carnegie Endowment for International Peace, 4/21/93 ***(9699)****.*

1/5/93
South Korea announces that it will resume dialogue with North Korea when the Team Spirit exercises end in 4/93.
Jonah Kaplan, Carnegie Endowment for International Peace, 4/21/93 ***(9699)****.*

1/11/93
North Korea asks that the JNCC meet on 1/20/93 and resume talks that have been deadlocked since 1992 over South Korean demands for mutual nuclear inspections. South Korea continues to insist on mutual inspections and plans to resume Team Spirit exercises with the U.S. in the spring if the North does not comply. North Korea retaliates by refusing to attend a round of prime ministers' talks originally scheduled for 12/92 in Seoul.
UPI, 1/11/93; in Executive News Service, 1/11/93 ***(9749)****.*

1/25/93
At a meeting of the JNCC, Gong Ro-myung, South Korean Co-chair of the JNCC, notifies Choe U-jin, his North Korean counterpart, that South Korea will resume the Team Spirit military exercises with the U.S. South Korea invites the North Koreans to observe the exercise, but the North declines. North and South Korea fail to set a date for the next meeting for the negotiation of mutual inspections.
Kensuke Ebata, Jane's Defense Weekly, 2/6/93, p. 12 ***(9752)****. Aleksandr Valiyev, ITAR-TASS (Moscow), 1/29/93; in JPRS-TND-93-004, 2/5/93, p. 9* ***(9752)****. UPI, 1/25/93; in Executive News Service, 1/25/93* ***(9107)****. Reuter, 1/25/93; in Executive News Service, 1/25/93* ***(9058)****.*

NORTH KOREA-PAKISTAN

3/15/93

South Korean Prime Minister of National Unification Han Wan-sang says that South Korea has intentions of becoming North Korea's top trade partner by 1995 if concerns over the latter's nuclear weapon development program can be addressed.

Korea Herald, 3/16/93 ***(9447)***.

3/16/93

South Korea bans the export and import of goods and personnel with North Korea, and said that the situation had changed to a "quasi-wartime status."

Naoaki Usui, Nucleonics Week, 3/18/93, pp. 10-11 ***(9436)***.

North Korea with United States

3/17/93

A meeting is held between U.S. and North Korean officials at the U.S. embassy in Beijing during which the U.S. makes a direct official appeal to North Korea to reconsider its decision to withdraw from the NPT.

Don Oberdorfer, Washington Post, 3/18/93; in Executive News Service, 3/18/93 ***(9742)***. *Sid Balman, Reuter; in Executive News Service, 3/17/93* ***(9742)***.

PAKISTAN

Internal Developments

2/93

Former Pakistani Army Chief of Staff General Aslam Beg says that if Pakistan should admit to possessing a nuclear device. Beg states that Pakistan "should admit this if we do have it, so that we should be recognized as a joint nuclear power with India."

Nucleonics Week, 2/11/93, p. 12 ***(9672)***.

2/93

Pakistani scientist M.N. Qazi of the Chashma Nuclear Power Plant (CHASNUPP) states that the capacity of the research reactor at the PINSTECH research center was increased from 5 to 10 megawatts and is now being run on 20% enriched uranium instead of the 90% enriched fuel the old model used.

The News, 1/28/93, p. 5; in JPRS-TND-93-004, 2/5/93, p. 25 ***(9675).***

4/93

According to Russian intelligence sources, Pakistan's Kahuta nuclear complex contains an ultra-high speed centrifuge factory with four main halls housing 10,000 to 14,000 centrifuge cascades capable of producing enough weapons-grade uranium for up to twelve nuclear devices per year. Pakistan is also reportedly developing technology for a plutonium bomb by "diverting" unspecified amounts of plutonium from its 137 MW Canadian-supplied nuclear power station at Karachi (KANUPP), as well as constructing a 50 to 70 MW heavy water NRX nuclear reactor to be used for plutonium production.

Indrani Banerjee, Sunday (Calcutta), 4/24/93, pp. 34-38; in JPRS-TND-93-014, 5/18/93, p. 12 ***(9942)***.

Pakistan with Belgium, Germany, and Sudan

1970s-1980s

Pakistan illegally procures nuclear wastes and plutonium from Sudan, and from the German firm Transnuklear. The nuclear waste smuggling involves the nuclear waste dump at Mol, Belgium.

Indrani Banerjee, Sunday (Calcutta), 4/24/93, p. 12; in JPRS-TND-93-014, 5/18/93, p. 12 (9942).

4/93

According to Russian intelligence sources, Pakistan has built a "chemical radiation facility" at Chasma which can be used to extract plutonium; sources state that Belgian and German companies may have helped to build the plant.

Indrani Banerjee, Sunday (Calcutta), 4/24/93, pp. 34-38; in JPRS-TND-93-014, 5/18/93, p. 12 ***(9942)***.

Pakistan with France

10/92

France and Pakistan sign a nuclear cooperation agreement, which calls for collaboration in the areas of agriculture, medicine, industry and radiation protection.

ENS Nucnet, 2/10/93 ***(9222)***.

Pakistan with IAEA and PRC

2/24/93

Pakistan and the International Atomic Energy Agency sign an agreement for the application of safeguards in connection with the supply of a nuclear power station from the PRC to Pakistan.

International Atomic Energy Agency Information Circular, INFCIRC/418, 4/93 ***(9670)***.

Pakistan with India

1/4/93

Pakistan and India exchange lists of their nuclear sites for the second year in a row in compliance with a 1988 agreement of nonaggression toward each other's nuclear installments. Neither India nor Pakistan discloses the contents of the lists to outside sources.

Reuter, 1/4/93 ***(9676).*** *The Hindu, 3/19/93, p. 8; in JPRS-TND-93-0015, 5/25/93, p. 20* ***(9934)***.

3/93

Former Pakistani Prime Minister Benazir Bhutto denies reports made by Seymour Hersh in an article in The New Yorker that Pakistan and India came very close to nuclear war during their crisis over the Himalayan state of Kashmir in 1990. Hersh based his conclusions on interviews with top U.S. officials such as Deputy National Security Advisor Robert Gates. Prime Minister Bhutto states that "the two countries present a volatile situation which needs to be diffused. But it is incorrect to state that we were close to nuclear war in 1990."

UPI, 3/23/93; in Executive News Service, 3/22/93 ***(9626)***. *Washington Times, 3/22/93, p. A5* ***(9274)***. *Reuters, 3/23/93; in Executive News Service, 3/23/93* ***(9626)***.

Pakistan with Japan

1/14/93

Japanese government officials declare that

Japan may use its foreign aid program as a lever against India and Pakistan to halt their "alleged" nuclear weapons programs.
Kyodo (Tokyo), 1/14/93; in JPRS-TND-93-002, 1/15/93, p. 5 ***(9842)***.

2/93

Japan sends a delegation to Pakistan to discuss new Japanese legislation that will prohibit economic aid to countries suspected of possessing nuclear weapons programs. Pakistani government sources say Japanese Prime Minister Kiichi Miyazawa sent a personal message to Pakistan's Prime Minister Nawaz Sharif concerning Pakistan's nuclear program, but details of the message were not disclosed. Pakistan received 50 billion yen ($406 million) in aid from Japan in 1991 and had received a pledge from Japan to provide another 50 billion yen in 1992. Another delegation will visit India and Pakistan in 3/93 in an attempt to convince the two nations to sign the NPT.
UPI, 2/23/93; in Executive News Service, 2/23/93 ***(9674)***. *Kyodo (Tokyo), 1/214/93; in JPRS-TND-93-003, 1/27/93, p. 5* ***(9842)***.

Pakistan with North Korea

1/93

A five-member parliamentary delegation from the Democratic People's Republic of Korea led by the Chairman of the Standing Committee of the Supreme People's Assembly, Yang Hyong-sop, meets with Pakistani Senate chairman Wasim Sajjad in Islamabad to discuss the nuclear situation in South Asia.
PTV Television Network (Islamabad), 1/3193; in JPRS-TND-93-004, 2/5/93, p. 23 ***(9663).***

Pakistan with PRC

12/92

China begins the first stage of delivery of a 300 MW PWR (an upgrade of the 300 MW Quinshan plant) to Chasma, Pakistan.
Nuclear Engineering International, 2/93, p. 7; ***(9816)***.

1/93

A spokesman for the Pakistan Atomic Energy Commission (PAEC) denies that there have been attempts to sabotage the Chasma Nuclear Power Station, which is under construction by Chinese and Pakistani scientists, engineers, and technicians.
The Frontier Post (Peshawar), 1/17/93, p. 6; in JPRS-TND-93-003, p. 14 ***(9671).***

2/93

Fan Xilin, general director of the China Zhongyuan Engineering Corp. (CZEC), which is carrying out construction of the Chasma reactor in Pakisttan for the China National Nuclear Corporation, says that Western companies have banned the export of certain key components for the project. Fan Xilin said that China would supply the pressure vessel to Pakistan and was "making arrangements for the other components." A 30-member team from Pakistan's Atomic Energy Commission is currently in China working with the Shanghai Nuclear Research and Development Institute.
Nuclear Engineering International, 2/93, p. 7 ***(9816).***

Pakistan with Russia

4/93

A Russian delegation headed by Foreign Minister Andrei Kozyrev holds talks with the Chair of Pakistan's Atomic Energy Commission on the possible sale of nuclear power plants to Pakistan.
Nucleonics Week, 4/22/93, p. 17 ***(9830)***.

PRC

Internal Developments

4/18/93

The International Campaign for Tibet (ICT) issues a report, entitled "Nuclear Tibet," in which it accuses China of conducting nuclear weapons research at a site known as the Ninth Academy or the Northwest Nuclear Weapons Research and Design Academy on the Tibetan plateau in Qinghai province. According to the report, the Ninth Academy was used to design China's nuclear arsenal through the 1970's and remains its principal nuclear arms research facility. The report also asserts that waste from the Ninth Academy was disposed of in a "roughshod and haphazard manner," resulting in contamination of the local population. The ICT resurrects claims that China has plans to build a nuclear reactor near Lhasa; China had previously denied the allegation. The ICT says its report was drawn from interviews with Chinese nuclear experts, government officials, two ICT fact-finding missions and Tibetans. In 1992, China firmly rejected a charge by the Dalai Lama that it was dumping radioactive waste in the Tibetan region. On 4/29/93, Chinese Foreign Ministry spokesman Wu Jianmin describes the ICT report as "pure, abject fabrication."
Tony Walker, Financial Times, 4/20/93, p. 6. Sheryl WuDunn, New York Times, 4/19/93, p. A7. Xinhua (Beijing), 4/29/93; in JPRS-TND-93-012, p. 3. AFP (Hong Kong), 4/19/93; in JPRS-TND-93-011, p. 3 ***(9657).***

4/93

An article in the Chinese newspaper Selected Legal System News describes loose controls at an undisclosed nuclear site in China. The article describes a former nuclear test site where ordinary people regularly entered and pilfered parts from planes, tanks, and artillery pieces.
Sheryl WuDunn, New York Times, 4/19/93, p. A7 ***(9657).***

PRC with IAEA

1993

China announces that it will host an IAEA public information meeting as part of an IAEA public information series sponsored by Japan.
IAEA Newsbriefs, vol. 8 no. 1, 1-2/93, p. 7 ***(9837).***

2/28/93

The IAEA receives notification from China accepting the Agreement to Extend the Regional Co-operation Agreement for Research, Development, and Training Related to Nuclear Science and Technology.
IAEA Information Circular, INFCIRC/167/add. 16, 4/93, p. 1 ***(9450).***

PRC

4/19/93

The foreign minister of Tibet's government-in-exile, Tashi Wangdi, calls on the IAEA to send a mission to Tibet to confirm charges that China is conducting nuclear weapons research, dumping radioactive waste, and deploying nuclear missiles aimed at India on the Tibetan plateau. The allegations were made in a report issued on 4/18/93 by the International Campaign for Tibet.

AFP (Hong Kong), 4/19/93; in JPRS-TND-93-011. Sheryl WuDunn, New York Times, 4/19/93, p. A7. Tony Walker, Financial Times, 4/20/93, p. 6 ***(9657).***

PRC WITH IAEA AND OECD

2/93

China reports uranium resource information to the IAEA/OECD Nuclear Agency's "Red Book" for the first time.

Nuclear News, 2/93, pp. 72-73 ***(9193).***

PRC WITH IAEA AND PAKISTAN

2/24/93

Pakistan and the International Atomic Energy Agency sign an agreement for the application of safeguards in connection with the supply of a nuclear power station from the PRC to Pakistan.

International Atomic Energy Agency Information Circular, INFCIRC/418, 4/93 ***(9670)****.*

PRC WITH INDIA

4/93

China is reportedly interested in India's new fast breeder reactor technology, which employs a new monazite-based fuel cycle. The new technology uses a blanket of thorium produced from the beach sands of Kerala.

Cecil Victor, Patriot (New Delhi), 4/10/93, p. 5; in JPRS-TND-93-019, 6/22/93, p. 9 ***(9642).***

PRC WITH IRAN

2/93

U.S. intelligence chief James Woolsey says that Iran is developing chemical, biological and nuclear weapons with the assistance of the PRC and Russia.

Jim Wolf, Reuter, 2/24/93; in Executive News Service, 2/25/93 ***(9167).***

2/21/93

Iran and China sign a deal to construct two 300 MW nuclear power plants in the southern part of Iran.

The Arms Control Reporter, 3/93 ***(9707).***

PRC WITH IRAQ

1/93

The IAEA is said to suspect that Iraq could be hiding an underground plutonium reactor and a uranium enrichment "cascade" with centrifuges imported from China, Brazil, and Germany.

Mednews, 1/25/93, pp. 1-3 ***(9621).***

PRC WITH ITALY

3/93

The Italian energy research agency, ENEA, sells the China Institute of Atomic Energy circuitry used to test sodium reactors in fast reactor designs. The equipment had been used in designing the PEC (Prova Elementi Combustibile) reactor in Brasimone and at an ENEA research facility at Casaccia. The circuitry is "virtually technically obsolete" and was sold at a "knockdown price." The PEC was designed as a 120 MW sodium-cooled fast neutron reactor for testing fuel elements. The circuitry will be used by the Chinese for experiments similar to those done in Italy.

Marion Bywater, Nucleonics Week, 3/18/93, p. 13 ***(9177).***

PRC WITH JAPAN

3/93

Japan begins nuclear power plant safety courses for staff from the PRC. The Japan Electric Power Information Center is organizing the program, which is sponsored by the Ministry of International Trade & Industry.

Nuclear Europe Worldscan, 3-4/93, p. 36 ***(9836).***

PRC WITH KAZAKHSTAN

1/93

Reports allege that China has attempted to illegally import high grade steel, copper and strategic metals from Kazakhstan.

interfax (Moscow), 1/10/93; in FBIS-SOV-93-007, 1/11/93, p. 62 ***(9199)****.*

PRC WITH NORTH KOREA

2/16/93

Diplomatic sources in New York say that IAEA Director General Hans Blix is facing obstacles from China and Russia on the issue of holding a special inspection in North Korea.

Mark Hibbs, Nucleonics Week, 2/18/93, pp. 16-17 ***(9431).*** *Mark Hibbs and Naoaki Usui, Nucleonics Week, 2/4/93, p. 18* ***(9631).***

3/93

State Department nominee and Asian specialist Winston Lord says the U.S. has sought Chinese help in convincing North Korea not to withdraw from the NPT. Chinese Foreign Minister Qian Qichen has asserted that "patient consultation" should be used with North Korea and noted that the NPT did not include punitive measures for states opting to withdraw from the Treaty.

William Scally, Reuter, 3/31/93; in Executive News Service, 4/1/93. Reuter, 3/31/93; in Executive News Service, 3/31/93. Times, 3/24/93 ***(9587).*** *Nucleonics Week, 3/25/93, p. 11* ***(9821).*** *Gareth Jones, Reuter, 3/31/93; in Executive News Service, 3/31/93* ***(9959).***

3-4/93

Japan solicits China's aid in encouraging North Korea to cooperate with the IAEA.

Mark Hibbs, Nucleonics Week, 4/1/93, p. 14 ***(9819).***

4/93

The Golos, a weekly newspaper, reports that between 1960 and 1969, China turned down a North Korean request for help in launching a nuclear weapons program**.**

Yonhap (Seoul), 4/13/93; in FBIS-SOV-93-069, 4/13/93, pp. 27-28 ***(9826)****.*

4/93

After a request from China, the U.S. offers to participate in high level talks with North

Korea to discuss its withdrawal from the NPT.
Naoaki Usui, Nucleonics Week, 4/29/93, p. 13 ***(9697).***

4/1/93

China forces the IAEA's Board of Governors into a show of hands and then votes against a resolution calling for the U.N. to intervene in North Korea. China warns the U.N. not to become involved because it believes a compromise can be reached with North Korea given more time.
Reuter, 4/1/93; in Executive News Service, 4/1/93 ***(9698).***

4/27/93

North Korea cancels diplomatic contacts with China, apparently in response to China's attempts to persuade Pyongyang to rethink its withdrawal from the NPT. North Korea has also posted guards on its border with China "who have shot and killed several Chinese." Chinese diplomats believe that high level and direct discussions between Pyongyang and the IAEA would give Pyongyang an incentive to rethink its position.
Lena H. Sun and Jackson Dieb, Washington Post, 4/28/93 ***(9935).***

PRC with Pakistan

12/92

China begins the first stage of delivery of a 300 MW PWR (an upgrade of the 300 MW Quinshan plant) to Chasma, Pakistan.
Nuclear Engineering International, 2/93, p. 7 ***(9816)****.*

1/93

A spokesman for the Pakistan Atomic Energy Commission (PAEC) denies that there have been attempts to sabotage the Chasma Nuclear Power Station, which is under construction by Chinese and Pakistani scientists, engineers, and technicians.
The Frontier Post (Peshawar), 1/17/93, p. 6; in JPRS-TND-93-003, p. 14 ***(9671).***

2/93

Fan Xilin, general director of the China Zhongyuan Engineering Corp. (CZEC), which is carrying out construction of the Chasma reactor in Pakisttan for the China National Nuclear Corporation, says that Western companies have banned the export of certain key components for the project. Fan Xilin said that China would supply the pressure vessel to Pakistan and was "making arrangements for the other components." A 30-member team from Pakistan's Atomic Energy Commission is currently in China working with the Shanghai Nuclear Research and Development Institute.
Nuclear Engineering International, 2/93, p. 7 ***(9816).***

PRC with Russia

1/93

The Russian Academy of Sciences denies the claim by the Japanese newspaper Yomiuri that hundreds of former Soviet experts have gone to work in Chinese military plants.
Veronika Romanenkova, ITAR-TASS (Moscow), 12/30/92; in JPRS-TND-93-002, 1/15/93, p. 23 ***(9597).***

4/93

China and Russia hold a symposium on peaceful nuclear research that results in plans for future cooperation. Russian scientists are to work in the PRC on the conceptual design of a fusion-fission hybrid reactor.
Reuter, 4/19/93; in Executive News Service, 4/19/93 ***(9240)****.*

PRC with Taiwan

3/93

Taiwan and China discuss the possibility of opening a joint-venture dumpsite for radioactive waste disposal from the two countries during a two-day Nuclear Science Seminar in Beijing. Taiwan does not have a permanent waste storage facility and it is estimated that the country's six reactors have produced more than 300,000 drums of low level waste since the 1980's. The seminar is the first large-scale meeting between the two countries to cover the topics of nuclear power plant operation, nuclear safety, waste disposal, and environmental supervision.
*CNA (Taipei),1/19/93; in JPRS-TND-93-003, 1/27/93,p.8****(9817)****.ENS NucNet,2/29/93,No.84* ***(9609)****. UPI,3/4/93;in Executive News Service, 3/4/93* ***(9382)****. CNA (Taipei), 3/4/93; in JPRS-TND-93-008, 3/22/93, pp. 15-16* ***(9937)****. China Daily, 3/5/93, p. 1* ***(9610)****.*

PRC with United States

12/92

The PRC's deputy director of the Ministry of Energy reports that Westinghouse of the U.S. is discussing the sale of a 1000 MW APWR to the PRC for the Daya Bay nuclear station. Westinghouse spokesperson Bob Henderson says that the provision of the three-loop PWR would be "consistent with U.S. policy." Westinghouse has already provided the Guangdong Nuclear Power Joint Venture Company with a description of the APWR 1000; however, no formal invitation to submit a proposal has been extended.
Nucleonics Week, 1/7/93, p. 6 ***(9383).***

2/93

The CEO of Cray Research of the U.S., John Rollwagen, whose company's 1992 application for an export license to sell a supercomputer to China is still pending, is President Bill Clinton's nominee for Deputy Secretary of Commerce. The Department of Commerce is the primary agency involved in granting export licenses.
Jack Anderson and Michael Binstein, Washington Post, 2/21/93; in Executive News Service, 2/22/93 ***(9620).***

3/93

The U.S. Department of Commerce reports that in 12/92 the U.S. imported 39,587 kg of Enriched Uranium Product from China, bringing total U.S. imports from China to 103,490 kg for 1992. In addition, the U.S. received 591,709 kg of U3O8 from China in 1992. The U.S. imported 595,000 kg and 1.4 million kg of U3O8 from China in 1991 and 1990 respectively.
Michael Knapnik, Nuclear Fuel, 3/1/93, pp. 1, 14-15 ***(9784).***

SOUTH AFRICA

INTERNAL DEVELOPMENTS

1/4/93

In a press release, the African National Congress of South Africa (ANC) expresses concern that South Africa could still be pursuing secretive nuclear activities. The press release notes that the IAEA has determined that South Africa secretly produced "several hundred kilograms" of HEU. The ANC has long been firm in its opposition to the stockpiling of nuclear weapons by the South African government.

SAPA (Johannesburg), 1/4/93; in JPRS-TND-93-002, 1/15/93, p. 1 ***(9538)***.

2/93

The South African Atomic Energy Commission (AEC) acknowledges that the Pelindaba enrichment plant is not commercially viable and that it will seek international help to procure more economical fuel.

Sunday Times (Johannesburg), 2/21/93; in The Arms Control Reporter, 3/93 ***(9870)***.

2/19/93

The Electric Supply Commission (ESCOM) of South Africa announces its decision to build two nuclear plants in the Cape Province, one at Brazil and the other at Schulpfontein.

Nuclear News, 4/93, p. 66 ***(9930)***.

3/93

AEC Chief Executive Waldo Stumpf says that as a result of commercialization, the AEC has reduced its dependence on government funds from R685 million in 1991/92 to R300-451 million in 1992/93. AEC reprocesses "low and intermediate level nuclear byproducts from the nuclear industry," but it will not offer this service internationally.

Anita Allen, Saturday Star, 3/6/93, p. 11 ***(9917)***.

3/93

An unidentified London Times informant confirms South African President F.W. de Klerk's assertion that South Africa had no collaboration with foreign governments regarding its nuclear weapons program. The informant, who is a foreign specialist, had top triple-x security clearance allowing him access to all of the nuclear weapons program.

Times (London), 3/26/93, p. 2 ***(9936)***.

3/24/93

South African President F.W. de Klerk announces at a joint session of Parliament that South Africa secretly built six nuclear weapons. De Klerk says the weapons were dismantled soon after he came to power in 1989 and that officials decided to transfer all nuclear material from the South African Arms Corporation (Armscor) to the South African Atomic Energy Commission. The program employed approximately 1000 people and was originally intended to build seven weapons. The six fission weapons built weighed 1000 kg each and measured 1.8 m in length and 650 mm in diameter (approximately the size of the nuclear bomb dropped in Hiroshima). De Klerk emphasizes that all bomb materials and technology were produced domestically.

Washington Post, 3/18/93, p. A1 ***(9627).*** *Washington Post, 3/25/93 p. A1, A31 (****9604****). Nuclear Fuel, 3/29/93, p. 6* ***(9815)***. *Radio Sout Africa Network (Johannesburg), 3/24/93; in JPRS-TND-93-009, 3/29/93, pp. 1-5* ***(9945)***.

3/25/93

Waldo Stumpf, chief executive officer of the South African Atomic Energy Corporation (AEC), admits to a South African Broadcasting Corporation (SABC) reporter that the Pelindaba nuclear plant supplied the Arms Corporation of South Africa (Armscor) with material for nuclear devices. Stumpf states that there was never a completely assembled device at any point in time, and that no single individual had complete control over any of the devices. He states that the highly enriched uranium (HEU) from the devices was recast into "a suitable form" and is still located at Pelindaba, but denies that the devices could be recreated, since "all documentation and design information has been destroyed," and the fissile material is now safeguarded.

Penny Smythe, SABC TV 1 Network (Johannesburg), 3/25/93; in JPRS-TND-93-010, 4/16/93, pp. 3-4 ***(9926).***

3/26/93

The South African Arms Corporation (Armscor) and the Atomic Energy Corporation (AEC) issue a joint statement refuting newspaper reports that South Africa manufactured tactical nuclear weapons which could have been fired by G5 and G6 artillery guns. The statement declares that the bombs which South Africa had built weighed over one ton each and were six feet long, making it impossible for the bombs to be delivered by the G5 artillery.

Reuter, 3/26/93; in Executive News Service, 3/26/93 **(9533)**.

3/27/93

African National Congress (ANC) Science and Technology Coordinator Roger Jardine calls for South African President F.W. de Klerk to "come clean" on the country's nuclear weapons program by stating who controlled the nuclear devices. Jardine puts the cost of South Africa's nuclear weapons program at $2.3 billion--far more than de Klerk's figure of $233 million.

Ian Mackenzie, Washington Post, 3/27/93, p. A27 ***(9925)***.

SOUTH AFRICA WITH GERMANY

3/27/93

African National Congress (ANC) Science and Technology Coordinator Roger Jardine states that West Germany provided uranium enrichment technology to South Africa. The statement comes as part of a call by the ANC for South African President F.W. de Klerk's full divulgence of who controlled and who cooperated on the development of South Africa's nuclear devices.

Ian Mackenzie, Washington Post, 3/27/93, p. A27 ***(9925).***

SOUTH AFRICA WITH IAEA

1/93

The IAEA inspection team pays formal and informal visits to South Africa's nuclear facilities, including one to the Kalahari nuclear test site. The inspection team takes samples from the site soil which show

"traces of natural uranium but no residue associated with a nuclear explosion." The IAEA deduces that South Africa probably built the site for a nuclear test but never utilized it for that purpose. In addition, U.S. officials cite intelligence reports from human and satellite sources which suggest that "South Africa had hidden a significant quantity of highly enriched uranium (HEU) and other components of nuclear warheads produced during the 1970's and 1980's."
Arms Control and Disarmament Agency; in The Arms Control Reporter, 3/9/93, p. 455 B. 69 ***(9914)***.

3/93

The Washington Post reveals that since 1991, the IAEA has conducted a large-scale investigation to discover how much South Africa has revealed about its nuclear weapon development program. While South Africa has apparently been honest in declaring its capabilities since signing the NPT in 7/91, it has been secretive about the details of the actual nuclear program, which has never been confirmed or denied.
Washington Post, 3/18/93, p. A1 ***(9604)***.

4/14/93

IAEA Director General Hans Blix states that the IAEA has been offered a blanket invitation from South Africa and other nations "to visit any site or installation, regardless of whether it has been declared and regardless of whether the agency has reason to believe that the site contains something that should have been declared but was not."
Ann MacLachlan, Nucleonics Week, 4/22/93, pp. 14-15 ***(9696)***.

South Africa with Iran

4/14/93

Western military officials have expressed concern that when the African National Congress (ANC) takes power, South Africa might sell nuclear technology and materials to Iran "in payment for old debts." The ANC has termed this concern "far-fetched."
Bulletin of the Atomic Scientists, 4/93, pp. 32-37 ***(9625).***

South Africa with Israel

3/93

South African President de Klerk denies ANC allegations that the South African nuclear weapons program was developed with Israeli assistance.
Washington Post, 3/25/93, p. A1 and A31, ***(9627)***.

3/93

Four days after the South African disclosure of its nuclear weapons program, the City Press of South Africa reports that in 1977 and 1978, Israel supplied South Africa with 30 grams of tritium, code named "Teeblare," and, in turn, Israel received 50 tons of yellow cake from South Africa. Another newspaper reports that the South African government had tactical nuclear weapons and had apparently developed its G5 and B6 howitzer guns to launch them.
Israeli Foreign Affairs, 4/13/93, vol. 1. IX No.3, p. 3 ***(9916).***

South Africa with Multi-Country Group

4/93

Ogunsola Ogunbanwo, director of Disarmament Affairs at the United Nations, suggests that African exporters of uranium ore, namely South Africa, Niger, Namibia and Gabon, should have a coordinated export policy for uranium and should require full-scope safeguards as a condition for exporting uranium to non-nuclear weapons states. Ogunbanwo suggests that this policy be spelled out in an African Nuclear Free Zone Treaty.
Ogunsola Ogunbanwo, PPNN Paper NO. IW 1/4, 4/93, p. 11 ***(9532).***

4/93

South Africa Radio announces that four South African companies, including Atomic Energy Corporation (AEC), Electricity Supply Commission (ESKOM), Vaal Reefs and the Nuclear Fuel Corporation, will take part in a Uranium Institute international conference of uranium producers, consumers and nuclear fuel processors in Windhoek, Namibia at the end of 1993.
Radio South Africa, 4/26/93; in JPRS-TND-93-012, 5/4/93, p. 2 ***(9921).***

South Africa with Russia

2/93

Russia says that it will sell the South African Atomic Energy Commission fuel for its Pelindaba enrichment plant at a price which is below the world market price of $68 per SWU.
Sunday Times (Johannesburg), 2/21/93; in The Arms Control Reporter, 3/93 (9870).

1993

The Director of the Russian Foreign Intelligence Service, Yevgeniy Primakov, states that "red mercury" from the former USSR is exported through Eastern European countries, Scandinavia, Germany, Austria and Switzerland to major corporations involved in nuclear weapons production in South Africa, Libya, Iran, Iraq, Israel and other Middle East countries. Primakov states that "red mercury," a black market substance alleged to have nuclear weapons applications, does not exist in nature, but could be a code word used by mafia organizations involved in the illegal sale of precious metals, including osmium, uranium, indium and plutonium. All contraband samples of "red mercury" seized thus far have been regular mercury, lead or some other substance.
Pravda (Moscow), 4/17/93, pp. 1-2; in JPRS-TND-93-012, 5/4/93, pp. 21-28 ***(9649)***.

South Africa with United States

1/93

The U.S. Central Intelligence Agency releases a report which states that South Africa has an advanced nuclear weapons program. The release of the report comes shortly after the African National Congress (ANC) demands that the South African government divulge information about its nuclear weapons program and account for nuclear weapons materials stockpiled in the country.
Eddie Koch, Inter Press Service, 1/7/93 ***(9938).***

SOUTH AFRICA-SOUTH KOREA

3/93

The U.S. Department of Commerce yearly statistics show that the U.S. imported 1,044,595 kg of U308 and 32,156 kg of UF6 from South Africa in 1992.

Michael Knapik, Nuclear Fuel, 3/1/93, pp. 1, 14-15 ***(9784).***

3/93

South Africa contemplates a plan to sell its stockpile of enriched uranium to the U.S. and then buy it back after it has been reduced to a lower-grade uranium fuel for use in the country's nuclear reactors. The plan is reportedly prompted by the likelihood that the African National Congress (ANC) will come to power.

Alan Robinson, The Star, 3/4-3/10/93 ***(9922).***

South Africa with Yugoslavia

1/93

An article in the Russian newspaper Pravda reports that in 1992 Khkrvoye Sharinich the pro-nuclear advisor to the Yugoslav leader F. Tudzhman, was cooperating with several South African nuclear laboratories.

Yevenii Fadeyev, Pravda, 1/19/93, pp. 1,3 ***(9140).***

SOUTH KOREA

Internal Developments

2/93

Sunu Ryun, a former aide to the late President Park Chung-hee, discloses that he received a report from the Defence Ministry's Defence Science Technology Research Centre telling him that South Korea had the capability to develop a nuclear weapon by early 1981.

Jane's Defense Weekly, 2/27/93, p. 6 ***(9118)****.*

3/93

A Russian intelligence report states that the completion of a heavy-water research reactor will give South Korea the ability to produce fissionable materials. It notes that as of 1986, South Korea intended to construct a 40 MW heavy water research reactor in the 1990s. However, South Korea still lacks facilities for reprocessing and uranium enrichment, which limits its ability to create nuclear weapons. The report estimates that in 1986, South Korea had 4,800 workers and scientists in the nuclear field, 500 of which had been trained abroad.

Report by Russian Foreign Intelligence Service, Moscow, 1993; in JPRS-TND-93-007, 3/5/93, p. 37 ***(9970)****.*

South Korea with Argentina

3/93

National Commission of Atomic Energy (CNEA) president Manuel Mondino mentions "the possibility that arose during the last few days" that Argentina would export heavy water to Romania and South Korea.

Buenos Aires Radio Nacional Network, 3/15/93; in JPRS-TND-93-009, 3/29/93, p. 29 ***(9655)****.*

South Korea with Australia

3/93

A Russian intelligence report states that South Korea has engaged in nuclear research and development with Australia.

Report by Russian Foreign Intelligence Service, Moscow, 1993; in JPRS-TND-93-007, 3/5/93, p. 37 ***(9970)****.*

South Korea with France

3/93

A Russian intelligence report states that France has assisted South Korea in the development of new types of fuel elements for nuclear power plants.

Report by Russian Foreign Intelligence Service, Moscow, 1993; in JPRS-TND-93-007, 3/5/93, p. 37 ***(9970)****.*

South Korea with India

4/93

K. Balaramamurthy, the Indian Chief Executive of the Nuclear Fuel Complex (NFC), announces that India is now able to produce and export zirconium alloy tubes as well as other vital nuclear reactor components. Balaramamurthy adds that the NFC plans to export its technology. South Korea is among the countries which have expressed an interest in purchasing it.

The Times of India (Bombay), 4/27/93, p. 18; in JPRS-TND-93-022, 7/12/93, p. 11 ***(9545)****.*

South Korea with Israel

4/24/93

Israel's daily newspaper, Yedi'ot Aharonot, reports that South Korean intelligence officials have recently visited with Israeli military officials in secret to obtain information about the Israeli air bombing raids against Iraqi nuclear facilities in 1981. In return for this information, South Korea is providing Israel with intelligence information concerning North Korea's alleged weapons sales of the Nodong No. 1 missile to Iran and Syria. It is believed that Director General of Israel's Defense Ministry General, David Ivri, is scheduled to visit South Korea in 5/93.

Chungang Ilbo (Seoul), 4/26/93; in Pae Myong-pok, FBIS-EAS-93-078, 4/26/93, p. 35 ***(9949)****.*

South Korea with Japan

1/6/93

The South Korean government is reportedly considering measures to guard against Japan becoming a nuclear power. According to a secret report by the ROK Ministry of Science and Technology, Japan possessed the technology necessary to build a nuclear weapon as early as 1980. The report recommends that nuclear-related information be regularly exchanged, both as a check against Japan's development of a weapons capability, and as a means to learn more about Japan's nuclear energy technology. Chong Tae-ik, Director of the Americas Department of the Ministry of Foreign Affairs, states that while the South Korean government is concerned about safety in Japan's plan to ship plutonium from Europe for stockpiling over the next 30 years, the ROK government does not think Japan is likely

to "arm itself with nuclear weapons."
Tong-A Ilbo (Seoul), 1/6/93, p. 1; in JPRS-TND-93-002, 1/15/93, pp. 8-9 ***(9849)***.

1/18-1/19/93

South Korea and Japan participate in a meeting of the Joint Nuclear Consultative Committee. The countries are scheduled to discuss nuclear conditions and policies, North Korea's nuclear development, the establishment of a stronger nuclear diplomacy, and Japan's stockpile of plutonium.
Yonhap (Seoul), 1/19/93; in JPRS-TND-93-003, 1/27/93, p. 8 ***(9552)***.

SOUTH KOREA WITH NORTH KOREA

4/1/92

At the second meeting of the Joint Nuclear Control Commission (JNCC), South Korea proposes that regular inspections be carried out on nuclear materials and facilities at least 16 times a year, and that special inspections be conducted on military bases at least 40 times a year. South Korea wants the number of facilities inspected by both parties to be equal. However, North Korea wants the Yongbyon nuclear facility to be the only site inspected, while it wants South Korea to allow inspections of all of the U.S. bases.
Jonah Kaplan, Carnegie Endowment for International Peace, 4/21/93 ***(9699)***.

5/15/92

At the fourth JNCC meeting, South Korea suggests that special inspections take place 24 hours after notification by one party, in order to expedite the process of denuclearization. Based upon reports from the IAEA, South Korea demands that North Korea terminate its construction of a nuclear reprocessing plant capable of extracting plutonium.
Jonah Kaplan, Carnegie Endowment for International Peace, 4/21/93 ***(9699)***.

9/16/92

At the ninth JNCC meeting, North Korea accuses the U.S. of shipping nuclear weapons via submarine into the South Korean port of Chinhae.
Jonah Kaplan, Carnegie Endowment for International Peace, 4/21/93 ***(9699)***.

11/18/92

At the tenth JNCC meeting, North Korea reiterates that all channels of inter-Korean dialogue will be closed unless the South announces the cancellation of the Team Spirit exercises by the end of 11/92. South Korea repeats that it will cancel the exercises based upon the willingness of North Korea to adopt guidelines for mutual nuclear inspections by the end of 11/92 and allowing the first inspections by 12/20/92.
Jonah Kaplan, Carnegie Endowment for International Peace, 4/21/93 ***(9699)***.

11/27/92

At the eleventh JNCC meeting, North Korea suspends any further joint committee dialogue with South Korea, with the exception of the JNCC meetings.
Jonah Kaplan, Carnegie Endowment for International Peace, 4/21/93 ***(9699)***.

12/9/92

At the twelfth JNCC meeting, South Korea states that it will not cancel the Team Spirit exercises until both parties agree to conduct their first mutual inspections before the prime ministers meet later this month.
Jonah Kaplan, Carnegie Endowment for International Peace, 4/21/93 ***(9699)***.

1/5/93

South Korea announces that it will resume dialogue with North Korea when the Team Spirit exercises end in 4/93.
Jonah Kaplan, Carnegie Endowment for International Peace, 4/21/93 ***(9699)***.

1/11/93

North Korea asks that the JNCC meet on 1/20/93 and resume talks that have been deadlocked since 1992 over South Korean demands for mutual nuclear inspections. South Korea continues to insist on mutual inspections and plans to resume Team Spirit exercises with the U.S. in the spring if the North does not comply. North Korea retaliates by refusing to attend a round of prime ministers' talks originally scheduled for 12/92 in Seoul.
UPI, 1/11/93; in Executive News Service, 1/11/93 ***(9749)***.

1/25/93

At a meeting of the JNCC, Gong Ro-myung, South Korean Co-chair of the JNCC, notifies Choe U-jin, his North Korean counterpart, that it will resume the Team Spirit military exercises with the U.S. South Korea invites the North Koreans to observe the exercise, but the North declines. North and South Korea fail to set a date for the next meeting for the negotiation of mutual inspections.
Kensuke Ebata, Jane's Defense Weekly, 2/6/93, p. 12 ***(9752)***. *Aleksandr Valiyev, ITAR-TASS (Moscow), 1/29/93; in JPRS-TND-93-004, 2/5/93, p. 9* ***(9752)***. *UPI, 1/25/93; in Executive News Service, 1/25/93* ***(9107)***. *Reuter, 1/25/93; in Executive News Service, 1/25/93* ***(9058)***.

3/15/93

South Korean Prime Minister of National Unification Han Wan-sang says that South Korea has intentions of becoming North Korea's top trade partner by 1995 if concerns over the latter's nuclear weapon development program can be addressed.
Korea Herald, 3/16/93 ***(9447)***.

3/16/93

South Korea bans the export and import of goods and personnel with North Korea, and said that the situation had changed to a "quasi-wartime status."
Naoaki Usui, Nucleonics Week, 3/18/93, pp. 10-11 ***(9436)***.

SOUTH KOREA WITH RUSSIA

1/93

Russia offers South Korea plutonium reprocessing services for its spent **f**uel in exchange for South Korean financial aid for the completion of Russia's RT-2 reprocessing center.
Mark Hibbs, Nuclear Fuel, 1/4/93, pp. 5-6 ***(9139)***.

2/93

According to Li Din-ke, spokesperson for the South Korean Ministry of Science and Technology, Russia is prepared to sell South Korea nuclear technology. However, Sergey Yermakov, director of the Minatom Press Center, said hat he had heard of no such plan and thatt "this cannot be the case." At a recent meeting with South Korean representatives, the only nuclear business dis-

cussed concerned Russian reprocessing of South Korean waste, Yermakov said.
Izvestiya, 2/19/93, pp. 1,3; in FBIS-SOV-93-035, 2/24/93, p. 12 (10090).

3/93

Reports allege that South Korean businessmen have contacted Minatom about storing South Korean radioactive waste at Krasnoyarsk-26.
Ann MacLachlan, Nuclear Fuel, 3/15/93, pp. 10-11.

South Korea with Taiwan

3/93

A Russian intelligence report states that South Korea has engaged in nuclear research and development with Taiwan.
Report by Russian Foreign Intelligence Service, Moscow, 1993; in JPRS-TND-93-007, 3/5/93, p. 37 ***(9970)****.*

South Korea with United Kingdom

1/11/93

South Korea refutes the claim that it has sought a plutonium extracting contract with the U.K. since 1991. A South Korean Foreign Ministry spokesman says that Korea "does not plan to seek such a contract in the future." The Foreign Ministry adds that the U.K. and South Korea did sign an agreement on the peaceful uses of atomic power in 1991, but that the agreement did not contain any clauses regarding plutonium extraction.
Yonhap (Seoul), 1/11/93; in JPRS TND-93-002, 1/15/93, p. 9 ***(9101)****.*

South Korea with United States

3/93

Edlow International of the U.S. is issued a license to export 3.72% LEU to South Korea, and Westinghouse Electric is issued a license to export 4.5% LEU as fabricated fuel assembles.
U.S. Nuclear Regulatory Commission Export License Report, 3/93 ***(10089)****.*

SPAIN

Spain with France and Germany

2/16/93

The Framatome-Siemens Consortium (France-Germany) announces that it has been selected by Spain's Asociacion Nuclear Asco (ANA) for a $120 million contract to install steam generators at Asco-1 in 1995 and Asco-2 in 1996. The new generators are being manufactured by Equipos Nucleares S.A. using Siemens design technology. More than 50% of the supplies and services will be provided by Equipos Nucleares S.A. and Auxini, also a Spanish company.
Nucleonics Week, 2/18/93, pp. 1-2 ***(9852)****.*

Spain with Russia and Ukraine

2/93

The Twinning Engineering Group (TPEG), of which Spain's Unesa is a member, draws up specifications for safety upgrades at VVER PWRs in Russia and Ukraine. The projects are part of a program, called Tacis, of technical assistance by the Commission of the European Communities (CEC) to the Commonwealth of Independent States (CIS). They cover safety systems upgrade work, waste management, emergency procedures, measurement technology and training. Other members of the TPEG include: Electricité de France, Tractebel of Belgium, Nuclear Electric of the U.K., Enel of Italy, Germany's VGB, and GKN of the Netherlands.
Pearl Marshall, Nucleonics Week, 2/18/93, pp. 14-15 ***(9362)****.*

4/93

A group of Western experts, including scientists from Spain, begin European Community-sponsored safety analysis of VVER designs at Ukraine's Rovno nuclear plant.
Ann MacLachlan, Nucleonics Week, 4/15/93, pp. 14-15 ***(9766)****.*

Spain with United States

2/93

Westinghouse of the U.S. is denied a license to export micellaneous components to Spain.
U.S. Nuclear Regulatory Commission Export License Report, 2/93 ***(10089)****.*

3/93

Spain awards the U.S. firm Westinghouse a contract to do software studies supporting replacement of the steam generators at Spain's Asco and Almaraz plants.
Nuclear Europe Worldscan, 3-4/93, p. 30 ***(9662)****.*

TAIWAN

Internal Developments

2/93

Taiwan initiates the decommissioning process of the Tsing-Hua Argonaut Research Reactor. The reactor was supplied to Taiwan by the U.S. in 1973 and is located at the National Tsing-Hua University.
ENS NucNet, 2/19/93, No. 85 ***(9614)****.*

3/93

The Russian Foreign Intelligence Service issues a report on the status of the Taiwanese nuclear program. The report notes that Taiwan is unable to officially import the required technology, equipment or knowledge to build nuclear weapons. However, the Russian analysis also reports that Taiwan has the resources to pursue a nuclear weapons development program without outside assistance. The report cites the wide experience and training of Taiwanese nuclear specialists and the existence of the Taiwan Scientific Research Institute of Nuclear Energy, which employs over 1100 people, has modern equipment and has done development work in nuclear fuel technology.
Report by the Russian Foreign Intelligence Service (Moscow), 1993; in JPRS-TND-93-007, 3/5/93, p. 34 ***(9613)****.*

4/93

Taiwan announces that it expects privatization plans for the Taiwan Power Company (Taipower) to be completed in 1993.
Nuclear Engineering International, 4/93, p. 4 ***(9612)***.

TAIWAN WITH CANADA

3/93

A United States-Canadian agreement on uranium export is reached, clearing the way for Taiwan to purchase uranium from Canada. Canada's one-China policy prevented the establishment of official ties between Taiwan and China. Despite the absence of a Canadian-Taiwan agreement on nonproliferation, Canadian companies can now ship uranium through the U.S. to Taiwan. Canadian uranium exported to Taiwan under the agreement will be subject to U.S. nonproliferation regulations.
Ray Silver, Nuclear Fuel, 5/19/93, p. 5 ***(9611)***.

TAIWAN WITH PRC

3/93

Taiwan and China discuss the possibility of opening a joint-venture dumpsite for radioactive waste disposal from the two countries during a two-day Nuclear Science Seminar in Beijing. Taiwan does not have a permanent waste storage facility and it is estimated that the country's six reactors have produced more than 300,000 drums of low level waste since the 1980's. The seminar is the first large-scale meeting between the two countries to cover the topics of nuclear power plant operation, nuclear safety, waste disposal, and environmental supervision.
CNA (Taipei), 1/19/93; in JPRS-TND-93-003, 1/27/93, p. 8 ***(9817)***. *ENS NucNet, 2/29/93, No. 84* ***(9609)***. *UPI, 3/4/93; in Executive News Service, 3/4/93* ***(9382)***. *CNA (Taipei), 3/4/93; in JPRS-TND-93-008, 3/22/93, pp. 15-16* ***(9937)***. *China Daily, 3/5/93, p. 1* ***(9610)***.

TAIWAN WITH SOUTH KOREA

3/93

A Russian intelligence report states that South Korea has engaged in nuclear research and development with Taiwan.
Report by Russian Foreign Intelligence Service, Moscow, 1993; in JPRS-TND-93-007, 3/5/93, p. 37 ***(9970)***.

TAIWAN WITH UNITED STATES

4/93

General Atomics of the U.S. is issued a license to export a 1356-MWe BWR to Taiwan.
U.S. Nuclear Regulatory Commission Export License Report, 4/93 ***(10089)***.