

NUCLEAR- AND MISSILE-RELATED TRADE AND DEVELOPMENTS FOR SELECTED COUNTRIES, MARCH-JUNE 1997

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The material in this overview is drawn from selected abstracts that appear in the Center for Nonproliferation Studies' nuclear and missile databases. Transactions of nuclear and missile technologies, parts, and materials are listed according to the recipient country. Other developments are listed according to the country where the event or development took place.

ASIA

Nuclear

Among the topics discussed at the 30th Annual Conference of the Japan Atomic Industrial Forum (JAIF) was the limitation of nuclear weapons proliferation in Asia. An "Asiatom" organization similar to Euratom was proposed by Hiroshi Murata, vice-chairman of the JAIF. Murata said an Asiatom could coordinate both a regional nuclear safety organization and a more economical regional nuclear fuel cycle. He proposed that uranium enrichment be done in Australia, fuel fabrication in South Korea and Indonesia, and fuel reprocessing in Japan and China. Y.S.R Prasad, chairman of the India Atomic Industrial Forum, supported the proposal, while the general manager of the Korea Electric Power Corporation (KEPCO) was skeptical.

Nucleonics Week, 4/17/97, p. 13.

CHINA

Nuclear

The U.S. General Accounting Office (GAO) issued a report detailing the problems of separate export controls for Hong Kong and China once Hong Kong reverts to Chinese rule. Currently, high-tech goods, which China has sought for missile and nuclear technology development, are routinely sold to Hong Kong without restriction. The GAO report found 72 categories of items controlled for export to China for national security reasons, but not to Hong Kong. The list includes lasers, optical sensors, and high-performance computers.

Hong Kong's Reversion to China: Effective Monitoring Critical to Assess U.S. Nonproliferation Risks, United States General Accounting Office, [Online] <http://www.gao.gov>, Report to Congressional Requesters, 5/97, GAO/NSIAD-97-149; Michael S. Lelyveld, *Journal of Commerce*, 6/10/97, p. 1.

Construction of China's Lingao nuclear power station, located 1.2 km from the Daya Bay power station, began officially on 5/15/97 in Shenzhen. Phase 1 of the construction consists of two 1,000 MW reactors, scheduled to begin operation in July 2002 and

March 2003. During Phase 2, two more 1,000 MW reactors will be added. The total cost of the project is estimated at approximately \$4 billion. In terms of foreign investment, this is the largest project of China's Ninth Five Year Plan.

Xinhua (Beijing), 5/15/97; in FBIS-CHI-97-135, 5/15/97.

The Xinan Nuclear Industrial Institute of Physics in Sichuan recently built a nuclear fusion research reactor, called the China Nuclear Circulator Experimental Technique Laboratory. The China National Nuclear Corporation inspected the laboratory's magnetic fusion functions, including a microwave system and an ion cyclotron resonance heating system. The reactor works in conjunction with the institute's existing Fusion Circulator No. 1.

Xinhua (Beijing), 6/4/97; in FBIS-CHI-97-108, 6/4/97.

U.S. nuclear laboratories are expanding collaboration with Chinese nuclear labs on projects involving material protection, control, and accounting (MPC&A). The U.S. participants are Sandia and Los Alamos national laboratories. The Chinese participants

are the Chinese Academy of Engineering Physics and the China Institute of Atomic Energy. U.S. laboratories have hosted collaborative workshops on issues involving arms control, nonproliferation, and Comprehensive Test Ban Treaty (CTBT) verification. The United States plans to conduct seismic monitoring of mining explosions demonstrations, and, in return, has been invited by China to participate in a seismic experiment to obtain geological data.

William B. Scott, *Aviation Week & Space Technology*, 6/23/97, p. 54.

Missile

A classified report from the U.S. National Air Intelligence Agency dated fall 1996 says that China is expected to deploy the Dong Feng-31 (DF-31) at "about the turn of the century." The DF-31, produced in Nanyuan (near Beijing), was observed on a launch pad at the Wuzhai Missile and Space Test Center in 10/96, and is expected to be flight-tested soon, based on the recent completion of site construction at Wuzhai. The report also noted that a Belarusian six-axle mobile launcher (called a MAZ, after the Minsk Automobile Factory) was photographed at a production facility in Nanyuan. The MAZ is similar to mobile launchers used for the SS-20, which was eliminated under the Intermediate-range Nuclear Forces (INF) Treaty. The report said that China will probably reverse-engineer the MAZ and incorporate some of its technologies, such as the all-wheel suspension, higher ground clearance, large tires, and driver-controlled central tire-inflation system.

Bill Gertz, *Washington Times*, [Online] <http://www.washtimes.com>, 5/23/97.

China conducted its second successful satellite launch of the month on 6/10/97, using a Long March-3 rocket. The satellite's onboard guidance system will position it into geostationary orbit.

Nando Times, [Online] <http://www.nando.net/news-room>, 6/11/97.

INDIA

Nuclear

India's Bhabha Atomic Research Centre (BARC) has developed the sol-gel process, which uses a type of glass to fabricate nuclear

fuel. The new technology could eliminate the need to handle nuclear fuel in powder form, making it easier and less hazardous to work with. The Sol-gel process could also be used to fabricate mixed-oxide (MOX) fuel and to reprocess plutonium.

Hindu, [Online] <http://www.webpage.com/hindu/today/08/08030003.html>, 3/3/97.

Russian President Boris Yeltsin "agreed in principle" to the sale of two VVER-1000 light water reactors to India. The reactors will be constructed at Koodankulam. Yeltsin made the decision during one-on-one talks with Indian Prime Minister H.D. Deve Gowda in Moscow. According to Indian External Affairs Minister I.K. Gujral, India does not have the technology necessary to build 1,000 MW reactors on its own. Official sources in Moscow said that the decision to go ahead with the sale showed that Moscow had "vehemently rejected" U.S. protests. Moscow maintains that the sale does not violate the 1992 Nuclear Suppliers Group (NSG) agreement, which limits nuclear exports to countries of proliferation concern. The Soviet Union and India signed the initial contract to complete a nuclear power plant in Koodankulam in 1988. According to Russian Minister of Atomic Energy Viktor Mikhailov, the NSG agreements signed in 1992 cannot be made retroactive. Mikhailov said the project will "materialize" by the end of 1997.

The Indian Express, [Online] <http://www.expressindia.com/ie/daily>, 3/26/97; *Nezavisimaya gazeta*, [Online] <http://home.eastview.com/news/ng>, 3/21/97.

India's two 220 MW reactors at the Kaiga nuclear power plant are expected to be commissioned during 1998-99, the plant's director V.K. Sharma said. The two reactors were originally estimated to cost Rs7.74 billion; however, that figure is now expected to reach Rs22.75 billion following the collapse of one of the reactor's containment domes in 1994.

Deccan Herald, [Online] <http://www.deccanherald.com>, 3/23/97; in FBIS-NES-97-113, 3/23/97.

Missile

According to Indian officials, a delegation from Rosvoorouzhnie, Russia's arms export agency, offered to sell India 150 km-range S-300 surface-to-air missile (SAM) systems

the week of 2/10/97. [Sources conflict on the precise variant being considered, S-300V or S-300PMU.] A Rosvoorouzhnie spokesman would not give details on numbers of systems or price, but sources in both countries say that Russia is planning to sell India six S-300s worth \$1 billion. Russian President Boris Yeltsin and Indian Prime Minister H.D. Deve Gowda subsequently agreed "in principle" to India's acquisition of six Russian S-300s. The missiles would be sold to India by the year 2000 under an Indo-Russian defense cooperation agreement. Negotiations on the sale have been under way for over two years. According to an Indian defense official, a formal agreement will be signed soon. India is eager to obtain the missiles to counterbalance 30 Chinese-made M-11 ballistic missiles deployed in Pakistan. India plans to deploy the S-300s along with the Indian Rajendra phased-array radar and Akash long-range SAMs.

Defense News, 2/24/97-3/2/97, p. 6; *The Indian Express*, [Online] <http://www.expressindia.com/ie/daily>, 3/26/97.

According to the Indian Space Research Organization (ISRO), Russia recently provided India with state-of-the-art equipment to test the cryogenic rocket engines now under development for its satellite launch vehicles (SLVs).

Pravda pyat, 3/6/97, p. 3; *Krasnaya zvezda*, 3/6/97, p. 3.

On 4/30/97, ISRO successfully ground tested the improved first-stage booster of the Polar Satellite Launch Vehicle (PSLV). The solid-fuel motor produced a peak thrust of 415 metric tons and burned for 110 seconds. During its Ninth Plan period between 1997 and 2002, ISRO intends to conduct up to 17 missions. ISRO will use the PSLV to launch satellites into polar or inclined orbit for Earth observation and "space sciences." In 4/97, ISRO launched its first Rohini RH-560 Mk2 suborbital sounding rocket from Sriharikota. The rocket carried a 100 kg payload to an altitude of 450 km.

Doorsdahan Television Network, 4/30/97; in FBIS-NES-97-121, 5/1/97; *Indian Express*, [Online] <http://www.expressindia.com/ie/daily>; *Hindu International Edition*, 4/12/97, p. 16; *Flight International*, 4/30/97-5-6/97, p. 24; All India Radio, 4/30/97; in FBIS-NES-97-120, 4/30/97.

INDONESIA

Nuclear

Indonesia's parliament approved a new atomic energy law on 2/26/97. The law provides the legal framework for establishing and regulating a nuclear energy program, and updates existing regulations for the use of nuclear materials.

Nuclear News, 4/97, p. 48.

Missile

Indonesia said on 6/20/97 that it is considering the purchase of Russian-made air-defense systems and fighter aircraft.

Washington Times, 6/21/97, p. A8.

JAPAN

Nuclear

Siemens Power Corporation announced an agreement with Nuclear Fuel Industries of Japan for the long-term supply of uranium conversion services. Siemens will convert enriched uranium hexafluoride to uranium oxide powder at its new dry-conversion facility in Richland, Washington.

Willis Witter, *NuclearFuel*, 3/10/97, p. A16.

On 6/5/97, following suspension of operations due to a 3/97 fire and explosion, the Japanese government decided to shut down the Power Reactor and Nuclear Fuel Development's (Donen) spent fuel reprocessing center at Tokai. Approximately 96 tons of unprocessed spent fuel remain in storage. A research facility is currently under construction at the Tokai Operations Center and has been proposed as a temporary storage site for the spent nuclear fuel.

Nihon Keizai Shimbun (Tokyo), 6/6/97, p. 1; in FBIS-EAS-157, 6/6/97.

Missile

Japan's National Space Development Agency (NASDA) announced a study to replace its one-ton-class satellite launcher, the J-1 rocket. The study places Lockheed Martin's 34 m, two-stage oxygen-kerosene booster in competition with Nissan's 24 m, solid-propellant booster.

Paul Kallender, *Space News*, 6/2/97, p. 6.

KAZAKSTAN

Nuclear

A wholly owned state enterprise, Kazatomprom, was created to oversee the national interest "in all major uranium mining and processing enterprises." The new company inherits the capital of the Kazak State Atomic Power Engineering and Industry Corporation (KATEP), as well as that of three mining administrations, and the 51 percent government share in the Ulba Metallurgical Plant (a producer of nuclear fuel pellets). The new company will also oversee Kazakstan's national interests in KATEP's business ventures with the Canadian firm Cameco, the U.S. firm Uranerz, and the French firm Cogema.

Uranium Institute News Briefing, [Online] <http://www.uilondon.org/nb>, 3/5/97-3/11/97.

KOREAN PENINSULA ENERGY DEVELOPMENT ORGANIZATION (KEDO)

U.S. President Bill Clinton certified that the United States is taking steps to assure that progress is made on implementation of the 1/1/92 Joint Declaration on the Denuclearization of the Korean Peninsula and the implementation of the North-South dialogue, and that North Korea is complying with the other provisions of the Agreed Framework. Clinton also certified that North Korea is cooperating fully in the canning and safe storage of all spent fuel from its graphite-moderated nuclear reactors. This work is scheduled to be completed by the end of Fiscal Year 1997. He also certified that North Korea has not significantly diverted assistance provided by the United States from the purposes for which it was intended.

Presidential Determination No. 97-20, The White House, Office of the Press Secretary, 3/19/97.

During the week of 4/7/97, 54 KEDO representatives will join a 29-member site-survey team in Sinpo, North Korea. The 54-member team will check matters related to on-site communications, transportation, and labor. The team will travel to North Korea by ship from an eastern port in South Korea. This is the first team permitted to cross the border by ship. Other personnel have flown to North Korea from Beijing.

Wall Street Journal, [Online] <http://www.wsj.com>, Interactive Edition, 4/4/97.

The U.S. General Accounting Office released its second report on implementation of the U.S.-North Korean Agreed Framework on 6/2/97. The report addresses the U.S. costs of implementation of the framework, the options for disposing of North Korea's existing spent fuel, contracts for the light water reactors and other goods and services, the status of actions to normalize economic and political relations between the United States and North Korea, and the status of actions to promote peace and security on the Korean peninsula.

Nuclear Nonproliferation: Implementation of the U.S./North Korean Agreed Framework on Nuclear Issues, United States General Accounting Office, [Online] <http://www.gao.gov>, Report to the Chairman, Committee on Energy and Natural Resources, U.S. Senate, GAO/RCED/NSIAD-97-165, 6/97.

According to the Nuclear Assurances Corporation, the U.S. contractor in charge of the canning, clean-up, and dismantlement project at North Korea's Yongbyon nuclear facility, 6,500 of 8,000 spent fuel rods have been canned for long-term storage. More than 800 rods were "seriously neglected," complicating the process. It is also estimated that construction of light water reactors in Sinpo may cost up to \$5 billion, and that the expected completion date for both is 2003.

Stewart Stogel, *Washington Times*, 6/4/97, p. A20.

At a meeting between South Korean Vice Minister of Foreign Affairs Yi Ki Chu and his Norwegian counterpart, Siri Bjerke, Norway pledged to contribute \$250,000 to KEDO by the end of 1997.

Yonhap (Seoul), 6/4/97; in FBIS-EAS-97-155, 6/4/97.

A 44-member KEDO delegation traveled to North Korea to negotiate construction protocols, including mail and telecommunications services, emergency medical procedures, and use of North Korean labor, materials, and transportation. Site-leveling is scheduled to begin when the negotiated terms are signed in New York. KEDO will open its Sinpo office as early as 7/97. North Korean Ambassador-at-Large Ho Chong is scheduled to visit New York in late 6/97 to meet Stephen Bosworth, executive director

of KEDO, to sign the construction protocol for the light water reactors.

Yonhap (Seoul), 6/6/97; in FBIS-EAS-97-157, 6/6/97; Yonhap, 6/13/97; in FBIS-EAS-97-164, 6/13/97.

NORTH KOREA

Nuclear

IAEA Director General Hans Blix said on 3/17/97 that talks with North Korea regarding past data from its nuclear reactors have stalled. No date was set for the next round of discussions.

Agence France Presse, 3/17/97; in FBIS-TAC-97-076, 3/17/97.

Missile

Based on U.S. intelligence observations of the Nodong-1 missile made in 3/97, officials declared the missile "a weapon of terror, rather than an effective strike system." Three launchers were observed when deployed along North Korea's coastline, and seven more at a site near Pyongyang. The officials concluded that North Korea deployed the missile prematurely, and that it lacks a reliable guidance system. The observations provided more accurate specifications for the missile. It is 15.2m long, 1.2m in diameter, has a 770 kg warhead, and has a range of 1,300 km. But, the missile has a circular error probable (CEP) of 3-4 km. The Nodong-1 can be fitted with conventional or chemical warheads. Its transporter-erector-launcher (TEL) vehicle is based on a modified Russian MAZ-543, lengthened with a fifth axle. U.S. officials believe that the major difference between the Nodong-1 and -2 is the fuel supply system. The Nodong-2 may have a redesigned system to allow longer burning of stored fuel.

Paul Beaver, *Jane's Defence Weekly*, 5/28/97, p. 4.

PAKISTAN

Nuclear

In an interview conducted by an unnamed newspaper in Lahore, Pakistan, former Pakistani Army chief General Mirza Aslam Beg said that Islamabad has successfully tested its "atomic bomb capability." He said Pakistan's next task is to focus on delivery systems for its "nuclear capability." Beg said he has no knowledge whether Pakistan has missiles that could carry nuclear warheads.

But, he added that its F-16 aircraft could be used for such a task.

Nucleonics Week, 3/20/97, p. 18.

Missile

U.S. officials say that Pakistan is building a short-range ballistic missile factory near Rawalpindi using equipment and design information from China. The facility, begun in 1995 and believed to be one or two years from completion, may be able to produce an entire M-11 missile or many M-11 components. Such a transfer would violate China's MTCR obligations because the 280 km-range M-11, which can carry an 800 kg payload, can carry a nuclear warhead. U.S. officials believe China and Pakistan signed a contract in the 1980s to build the factory and about 36 M-11 missiles. Previously stored unassembled at Sargodha airfield, these missiles are now considered operational according to a 5/96 report by the interagency U.S. Weapons and Space Systems Intelligence Committee.

Jane's Intelligence Review, 3/97, pp. 131-133.

The *Larkana-II* will become Pakistan's first ship equipped with surface-to-surface missiles when it is commissioned by the end of 1997. The ship's engine was made in Germany, and China is expected to supply the weapon systems.

The Muslim, 4/22/97, p. 1.

SOUTH KOREA

Nuclear

In response to U.S. pressure, South Korea decided not to allow the Korea Electric Power Company (KEPCO) to reprocess spent nuclear fuel from abroad.

Mark Hibbs, *NuclearFuel*, 4/21/97, p. 12.

The South Korean government relieved Ambassador-at-Large for Nuclear Cooperation Chong Kon Mo from his post for disrupting the election process for IAEA secretary-general. Chong was a candidate for the position against the wishes of the South Korean government. Chong has also been minister of science and technology.

Korea Times (Seoul), 6/10/97, p. 1; in FBIS-TAC-160, 6/10/97.

TAIWAN

Missile

Taiwan has developed a surface-to-air missile based on its short-range, air-to-air Sky Sword (Tien Chien) missile. The new missile is scheduled to be tested during two-day Taiwanese military joint-forces exercises, beginning on 6/23/97.

Inside China Today, [Online] <http://www.nando.net/newsroom>, 6/11/97.

TURKEY

Nuclear

According to the Turkish Security Directorate, security agents in Bursa, Turkey, seized 850 g of uranium dioxide (UO₂) and arrested four persons suspected of illegal possession of the material. The suspects had attempted to sell the uranium to Turkish police disguised as buyers.

TRT Television Network, 5/26/97; in FBIS-WEU-97-146, 5/26/97.

Missile

Vadim Kuznetsov, Russia's ambassador to Turkey, said on 2/25/97 that Moscow is prepared to sell a range of weaponry to Turkey. Kuznetsov said Russia proposed selling a dozen weapon systems to Turkey, and has made offers for joint ventures and licensed co-production. According to Russian defense industry sources, Rosvoorouzhnie entered negotiations with Turkey on joint production of S-300 air-defense missiles, Mi-28 and Ka-52 assault helicopters, T-80 tanks, Mi-26 heavy transport aircraft, and small arms.

Defense News, 3/3/97-3/9/97, pp. 3, 26.

Israel and Turkey increased bilateral defense and security cooperation through deals clinched in high-profile reciprocal visits of senior defense officials. In addition to aircraft and missile accords, their collaboration includes technology transfer and technical cooperation, joint naval maneuvers, use of both states' airspace for air force training, and joint strategic assessment of the threats posed by Iran, Iraq, and Syria. Turkish-Israeli ties prompted sharp criticism from Arab states. Bilateral defense industrial activities are wide-ranging. Turkey will buy at least 10 unmanned aerial vehicles (UAVs) from Israel for surveillance in southeastern Tur-

key. Turkish officials are also considering the purchase of Israeli reconnaissance, attack, and communications UAVs. Israel is modernizing 54 Turkish F-4 fighter aircraft in a six-year plan. Turkey is buying nearly 50 Israeli Popeye-1 standoff missiles and will engage in co-development and co-production of hundreds of advanced Popeye-2 missiles. Israel is also bidding on Turkish projects to spend \$1 billion on four early warning aircraft and to refit 48 F-5 fighter aircraft.

Aviation Week & Space Technology, 6/23/97, p. 35.

EUROPE

ALBANIA

Nuclear

Ten containers of "radioactive material" were stolen from an arms factory in Fier, Albania, according to unnamed officials. Although the material itself has not been identified, one official said: "We are not talking about radioactive waste." An Italian secret service spokesperson was quoted by the *Gazetta del Sud* in Calabria, Italy, saying that the material was smuggled from Albania aboard a commandeered naval vessel which landed in southern Italy. The *Gazetta del Mezzogiorno* in Bari, Italy, said that material was smuggled by Albanian organized crime figures who have collaborated with the Italian mafia in the past.

The Times (London), [Online] <http://www.sunday-times.co.uk>, 3/21/97.

BELARUS

Nuclear

A Belarusian and three "foreigners" were arrested for attempting to smuggle 2 kg of uranium out of Belarus, according to a spokesperson for the State Security Committee. The suspects hoped to sell the uranium for \$100,000. The spokesperson said the uranium was not weapons-grade.

RFE/RL Newsline, 6/29/97.

Missile

According to the Belapan news agency, the Belarusian lower house of parliament approved the formation of a multinational conglomerate, named Granit, to improve the country's air-defense network with the help of 20 Commonwealth of Independent States defense firms, particularly those from Russia. Commander of Belarusian air-defense forces Valery Kastenka, speaking to the newspaper *Vo Slavu Rodiny*, said that Russia agreed to assist Belarus in modernizing its air defenses.

East Europe, 5/11/97-5/17/97, p. 21.

BULGARIA

Missile

In an interview, Ivan Kolev, former deputy chairman of Bulgaria's interdepartmental council on the defense industry, said that Bulgaria and Russia have "prepared a project jointly to manufacture the 'Mango' missile."

24 Chasa, 3/8/97, p. 19; in FBIS-EEU-97-069, 3/10/97.

CZECH REPUBLIC

Nuclear

Officials at the Temelin nuclear power plant in the Czech Republic notified the U.S. firm Westinghouse Electric Corporation that two nuclear fuel rods, which had been missing since 10/96 from Westinghouse's Commercial Nuclear Fuel Division plant near Columbia, South Carolina had been discovered at the plant. Each rod contains about 57 g of U-235. According to Westinghouse spokeswoman Mimi Limbach, the fuel rods were among about 300 lead-filled rods in a training assembly Westinghouse shipped to the Czech Republic in 10/96. The two fuel rods were among lead-filled rods when they were rejected during initial testing. A technician mistakenly recorded that they had been sent for repair, according to Limbach. The barcode reading was either misused or ignored. Westinghouse did not discover that the rods were missing until 3/20/97. Investigation continues into how the fuel rods ended up in a training assembly.

Washington Post, [Online] <http://www.washingtonpost.com>, 4/19/97.

GEORGIA

Nuclear

Agents from the Georgian Ministry of Security arrested three Tbilisi residents (Dzhumber Dzidziguri, David Otinashvili, and Kharatyan, chief specialist of the Tbilisi Metrological Institute dosimetric laboratory) who had attempted to sell about 20 g of radioactive plutonium-alpha beryllium compound in Turkey. An investigation revealed that in 1996, Kharatyan stole the compound from the institute. He then sold it to Dzidziguri and Otinashvili, who made several unsuccessful trips to Turkey to sell the stolen material for \$600,000. The suspects were arrested following their last trip. The suspects had stored the compound in make-shift containers in their apartments.

Segodnya, [Online] <http://www.eastview.com/segodnia>, 4/12/97.

LITHUANIA

Nuclear

About 70 kg of a 100 kg cache of uranium from a nuclear fuel assembly stolen from the Ignalina nuclear power plant in 1992 has been recovered, according to Lithuanian security officials. Twenty kg were seized near the plant on 6/10/97, and another 50 kg were recovered near Vilnius on 6/11/97. According to the senior investigator, Vytautas Pociunas, most of the uranium has been recovered. Officials believe the rest has been sold. Pociunas said that three suspects—all former security guards at Ignalina—will be tried for the theft.

Reuter, 6/12/97; *RFE/RL Newsline*, 6/13/97.

Missile

U.S. undercover agents posing as Columbian drug dealers arrested two Lithuanian men for conspiring to sell missiles and nuclear weapons. Alexander Progrebenski and Alexander Darichev were charged in Miami, Florida, with plotting to transport missiles and explosive materials without a license and to ship nuclear weapons illegally. The suspects met undercover agents several times in Miami and London, where they offered the agents a "shopping list" of surface-to-air missiles (SAMs) and other shoulder-fired weapons. Among the weapons offered were SA-13 'Strela' and SA-16 'Igla' missiles. In one

meeting, the suspects offered 40 missiles for \$1 million as well as tactical nuclear weapons. According to the suspects, the weapons were to be supplied through the Bulgarian government-owned arms company Armimex. The undercover agents spoke with a man who claimed to be an Armimex representative and Angelo Zeini, owner of the Equatorial Guinean cargo ship *Al Fares*. Zeini offered to ship the weapons as "junk material" from Bourgas, Bulgaria, to Puerto Rico for \$330,000.

Reuter, 6/30/97.

MACEDONIA

Nuclear

Police confiscated a lead capsule containing 250 g of uranium from an apartment in Skopje and arrested two Macedonians. According to the Skopje newspaper *Dnevnik*, the suspects said they obtained the uranium "as compensation from the FRY [Federal Republic of Yugoslavia]" and were prepared to sell it to "two foreigners" for DM2 million. According to experts in Skopje, the seized container is one of four that surfaced in Bulgaria in 1995 and had been intended for sale in the Middle East. The suspects said that after the "action of the Bulgarian police in 1995," the four containers went in different directions, "moving around the Balkans" for two years.

BETA, 4/4/97; *Standart News*, 4/7/97, p. 14.

RUSSIA

Nuclear

The Russian Federal Security Service (FSB) arrested V. Dudnik, a senior officer of the Russian Strategic Rocket Forces (SRF) stationed with the Orenburg army group, charging him with espionage. According to FSB sources, Dudnik intended to sell classified information about the SRF to foreign intelligence agents operating undercover at the U.S. Embassy in Moscow. Another source said that Dudnik had already attempted to sell the information for \$500,000. An investigation revealed that Dudnik had gathered classified information about the Orenburg rocket army, including sensitive information about the deployment of Topol RS-12M [NATO designation SS-X-27] ICBMs and major technical and qualitative parameters

of other Russian ICBMs. Also in Dudnik's possession was information about the security of nuclear warhead storage facilities.

Nezavisimaya gazeta, 3/27/97, p. 1; in *Oborona i bezopasnost*, 3/31/97, p. 2; *Yadernyy kontrol*, 5/97, pp. 7, 8; *Komsomolskaya pravda*, 7/15/97, p. 1.

Russian officers from the Novosibirsk organized crime unit arrested seven suspects attempting to sell 5.2 kg of uranium from Kazakhstan's Ust-Kamenogorsk metallurgical plant. The uranium, in the form of "radioactive pellets", was stolen for possible sale to China or Pakistan, according to unidentified law enforcement agencies. Two mafia figures from the city of Rubtsovsk (Kemerovskaya Oblast), with the assistance of a trolley bus factory locksmith, had transported the uranium from Kazakhstan in a Mercedes automobile. The buyer, a citizen of Novosibirsk, intended to pay \$100,000 for the material.

BBC Monitoring Summary of World Broadcasts, 5/4/97; in ITAR-TASS, 4/3/97; *Novaya sibir*, 3/28/97, p.5; *Izvestiya*, 4/1/97, p. 6; in FBIS-SOV-97-094, 4/4/97; ITAR-TASS, 4/3/97.

Two containers of Cesium-137 were found in a barn in Safonovo, Russia, by police from the Smolensk anti-mafia unit. Another publication said that five "sources" of Cesium-137 were found along with "radioactive equipment." The material was contained in lead capsules. The cesium was apparently stolen from a local factory, and was destined for an unnamed European country. Eight Safonovo residents in possession of firearms and plastic explosives were arrested in connection with the case. Police also confiscated cesium capsules from the suspects.

ITAR-TASS, 4/25/97; *Segodnya*, [Online] <http://www.eastview.com/segodnia>, 4/26/97.

A 68 kg cylindrical packing container with radioactive material was found in a sand pit near the Russian health resort of Essentukov (Stavropol region) on 5/18/97. Officials from the Stavropol Directorate of Internal Affairs and the local branch of the FSB are currently investigating all local enterprises to determine where the container originated and who placed it in the sand pit. The Rostov-based firm Radon will test the material to determine its origin.

Segodnya, [Online] <http://www.eastview.com/segodnia>, 5/20/97.

Missile

During a plenary session of the Duma, the lower house of the Russian parliament, Defense Committee Chairman Lev Rokhlin presented a report on illegal Russian arms sales to Armenia. According to the report, from 1993 to 1996, approximately \$1 billion in arms were shipped, including eight operational tactical missile launchers with 32 R-17 [NATO designation SS-1 'Scud B'] ballistic missiles, 27 3M8 Krug [NATO designation SA-4 'Ganef'] surface-to-air missile (SAM) systems with 349 missiles, 40 9M33 Osa [NATO designation SA-8 and SA-N-4 'Geko'] SAMs, 18 Grad multiple rocket launchers, and 40 Igla portable SAM complexes with 200 Igla SAMs. These were transferred illegally because no interstate treaty was ever signed to authorize weapons shipments. According to Rokhlin, these were "enormous violations."

Sovetskaya rossiya, 4/3/97, p. 3; in FBIS-SOV-97-067, 4/3/97; *Russia Today*, [Online] <http://www.russiatoday.com>, 4/15/97.

Commander-in-Chief of Russian Strategic Rocket Forces (SRF) General Igor Sergeev said that by the end of 1997, flight tests of the new Topol-M [NATO designation SS-X-27] rocket will be complete. The Topol-M will be deployed by at least one SRF regiment. The Topol-M was developed and produced entirely in Russia. Previously, Russia was almost 90 percent dependent on Ukraine for the manufacture of its fire-control systems. Although the production of fire-control systems will now be carried out at Russia at firms in Voronezh and Izhevsk, Sergeev expects Ukrainian deliveries to last until at least the end of 1997. The SRF will continue to cooperate with Ukraine's Kharkov defense plants, where fire-control systems are produced.

RIA Novosti, 4/24/97; in FBIS-UMA-97-114, 4/24/97.

A French defense ministry report states that Russia does not know the exact number of nuclear weapons in its arsenal, is not dismantling the number of "warheads" [*sic*, original text should have said missiles or delivery systems] called for under international agreements, and does not know the total number

of nuclear warheads returned to it from former Soviet republics. The report suggests that, because of financial shortfalls, Russia has been making retired warheads "temporarily inoperative," rather than completely dismantling them.

RFE/RL Newswire, 5/5/97.

SLOVAKIA

Missile

The Slovakian army has decided to purchase S-300 [NATO designation SA-10 'Grumble'] surface-to-air missile (SAM) systems from Russia for approximately \$200 million. The deliveries will be in remuneration for Russia's debt to Slovakia. Under the terms of existing contracts, Russia is to supply Slovakia with 24 S-300 SAMs, Strela [NATO designation SA-13 'Gopher'] and Iгла [NATO designation SA-16] SAMs, and other military equipment during 1997.

RIA Novosti, 3/26/97; *Sme*, 5/9/97, p. 15; in FBIS-EEU-97-131, 5/11/97; *Kommersant-Daily*, 4/29/97, pp. 20-22; in *Oborona i bezopasnost*, 5/5/97.

SWEDEN

Nuclear

According to a Swedish Security Police (SAPO) report, front companies used by countries of proliferation concern (India, Iraq, Israel, North Korea, and Pakistan) to acquire components for their nuclear weapons programs repeatedly contacted Swedish companies during the past year. On several occasions, SAPO intervened to prevent technology from being exported. In one case, Swedish firm Fixturlaser sent a "laser alignment device...used to aim beams and couplings with a precision of 0.01mm" to a company SAPO and British security police say Pakistan uses to acquire nuclear weapon components. According to Fixturlaser Managing Director Johan Halling: "Of course we had no idea they [laser alignment devices] could be used for nuclear weapons." British customs officials at Heathrow airport stopped the shipment. In most cases, the companies were unaware that their products could be used in nuclear weapons, according to Christer Ljungqvist, department head of the Inspection Service for Strategic Products.

Svenska Dagbladet (Stockholm), 3/27/97 p. 9; in FBIS-TAC-97-087, 3/28/97.

UKRAINE

Nuclear

During a 4/15/97 meeting in Kiev, Ukrainian President Leonid Kuchma assured Israeli Minister of Industry and Trade Natan Scharansky that Ukraine would not supply turbines for a Russian-supplied reactor being built at Bushehr, Iran. According to one report, Scharansky said Ukraine agreed to never supply Iran, Iraq, or Libya, with components which may aid the development of nuclear weapons.

New York Times, 4/15/97, p. A6; *RFE/RL Newswire*, 4/16/97.

Missile

Ukraine's state-run export firm Ukrspetseksport and Russia's state-run armament firm Rosvoorouzhnie signed an agreement to coordinate efforts to export missiles and other military equipment on the world market. Meeting in Moscow, Ukrspetseksport's chief, Andriy Kulin, and Rosvoorouzhnie's chief, Aleksandr Kotelkin, agreed to consult each other on prices, payment conditions, and strategic policies within the arms market. According to a spokesperson for Rosvoorouzhnie, Russia and Ukraine will be "acting on the world arms market jointly and in a civilized manner."

Unian, 3/7/97; in FBIS-SOV-97-066, 3/7/97; *Eastern Economist*, 3/31/97, p. 14.

A Russian Space Agency source said that Russia and Ukraine will start an enterprise to place commercial payloads into space using converted RS-20 [NATO designation SS-18 'Satan'] ballistic missiles. The "new" delivery vehicle, named Dnieper, will have an extra booster unit and could be ready for its first launch by the end of 1998. U.S. firm Microsoft has tentatively agreed to have 22 of its Teledesic satellites deployed into low-Earth orbit aboard the converted missiles. Microsoft is negotiating terms for another 80 launches.

ITAR-TASS (Moscow), 3/13/97; in FBIS-SOV-97-072, 3/13/97.

At a meeting of the Ukrainian-U.S. economic cooperation commission in Washington, DC, Ukrainian President Leonid Kuchma announced that Ukraine would continue to develop and produce surface-to-surface

missiles with maximum ranges between 300 km and 500 km. Ukraine's security chief Vladimir Gorbunin said Ukraine had guaranteed it would not export such missile systems or their related technologies. Ukraine pledged to abide by MTCR export guidelines even though it is not a member.

Interfax, 5/17/97; in FBIS-SOV-97-137, 5/17/97; *Jamestown Monitor*, 5/12/97; *Nezavisimaya gazeta*, [Online] <http://www.eastview.com/news/ng>, 5/27/97; *Interfax*, 5/20/97; in FBIS-SOV-97-140, 5/20/97.

MIDDLE EAST AND AFRICA

ALGERIA

Nuclear

China agreed on 5/21/97 to provide Algeria with blueprints and design plans for the third stage of construction of the Algerian Center for Nuclear Energy Research, which will focus on nuclear safety and waste treatment. The research reactor is under IAEA safeguards.

Xinhua (Beijing), 5/21/97; in FBIS-CHI-97-141, 5/21/97.

CYPRUS

Missile

Turkish Prime Minister Necmettin Erbakan declared that Turkey will not allow Cyprus to deploy Russian long-range S-300 [NATO designation SA-10 'Grumble'] surface-to-air missiles (SAMs).

Segodnya, [Online] <http://www.eastview.com/segodnia>, 3/21/97.

Russia will supply Cyprus with S-300 SAMs, despite objections by the United States, United Kingdom, Turkey, and Turkish Cypriots. During a visit of the Cypriot foreign minister to Moscow, Russian Foreign Minister Yevgeny Primakov declared that: "The contracts have been signed and the missiles will be shipped. There will be no retreat." In a Moscow news conference, Primakov said the shipment would be halted only if the entire island were demilitarized.

Jane's Defence Weekly, 6/25/97, p. 5; *Radio Moscow - Voice of Russia World Service*, 6/18/97; in FBIS-SOV-97-170, 6/19/97.

EGYPT

Nuclear

The Ministry of Electricity and Energy plans to build a nuclear power plant and may use the Type 600-A reactor being developed in the United States, Canada, and Germany. El-Dabaa, near Alexandria, has been chosen as the site for the reactor. The Egyptian Nuclear Materials Authority launched an air survey for uranium to fuel projected research reactors and power plants.

MENA (Cairo), 4/16/97; in FBIS-TAC-97-106, 4/16/97.

Egyptian Atomic Energy Authority President Hisham Fuad announced that the new 22 MW research reactor at Inshas, northeast of Cairo, will commence operation in 10/97. Egypt imported the \$62 million reactor under a 1993 agreement with Argentina, and Egyptian nuclear technicians were trained there to operate it.

Al-Ahram (Cairo), 5/17/97, p. 1; in FBIS-NES-97-140, 5/20/97; MENA (Cairo), 4/16/97; in FBIS-TAC-97-106, 4/16/97; Agence France Presse (Paris), 4/6/97; in FBIS-NES-97-096, 4/6/97.

IRAN

Nuclear

According to a senior official at the Russian Ministry of Atomic Energy (Minatom), a new stage of construction began at the Bushehr nuclear power plant after Iran made a \$60 million advance payment to Russia. Minatom Deputy Minister Yevgeniy Reshetnikov said on 3/21/97 that the reactor vessel has been manufactured and experts have begun building the plant's steam generators and other equipment. Assembly of the plant's VVER-1000 light water reactor will begin in early 1998. The Bushehr-1 reactor is scheduled to be commissioned in 2001.

ITAR-TASS, 3/21/97; in FBIS-SOV-97-080, 3/21/97.

Iran's Atomic Energy Council (AEC), chaired by President Ali Akbar Hashemi Rafsanjani, is again interested in acquiring two 300 MW reactors from China. Talks between the Atomic Energy Organization of Iran (AEOI) and China about the project were held in 1995, but "appeared to lapse" under strong U.S. pressure. The United States says that Iran has a secret nuclear weapons

program. Iranian front companies have attempted to obtain nuclear-related technology from the West, but most of these attempts have failed due to tightened export controls. Iran is now believed to be concentrating its "illicit procurement efforts" on Southeast Asia.

Jane's Sentinel Pointer, 4/97, p. 6.

Russian Foreign Minister Viktor Posuvalyuk and his Iranian counterpart, Mahmud Vaezi, signed a memorandum of understanding (MOU) on export controls. They emphasized their countries' commitment to the nonproliferation of nuclear weapons and their means of delivery.

Voice of the Islamic Republic of Iran First Program Network, 4/12/97; in FBIS-TAC-97-102, 4/12/97.

Germany's federal attorney—in conjunction with the German customs authority, the federal bureau of investigation, the federal office for the protection of the constitution, and the BND—compiled a classified list of approximately 120 German companies supplying Iran with dual-use technology. According to investigations, Iran knows how to procure dual-use technology "inconspicuously, but efficiently." Tehran prefers to use small, unknown companies run by Iranians who have lived in Germany for many years.

Stern, 4/17/97, pp. 188-191.

According to Germany's Federal Intelligence Service (BND), Iran has a nuclear weapons development program. Tehran will not have the technical capability to produce nuclear weapons until at least 2002, although that schedule could be accelerated if Iran acquired weapons-grade fissile material on the black market.

Welt am Sonntag, 4/27/97, p. 4; in FBIS-TAC-97-118, 4/28/97.

Missile

U.S. officials said Iran is completing two tunnels to house its Scud ballistic missiles. The site is located at Kuh-e-pardi on Iran's Persian Gulf coast, half way between Bushehr and Bandar Abbas.

Jane's Defence Weekly, 4/9/97, p. 4.

Russia is selling advanced air-defense systems to Iran according to Pentagon intelligence officials. The reported deal was

negotiated by Iranian intelligence agents and Russian arms brokers in 2/97 and 3/97 in Moscow. It included a Russian offer to sell S-300 series surface-to-air missiles (SAMs) at discount prices. Pentagon officials said that two systems, either SA-10s or the newer SA-12, with 96 missiles produced in 1997 near Moscow have been offered to Iran for \$180 million. This price is \$20 million below the amount Russia's state arms exporter, Rosvoorouzhnie, would ask for the system.

Washington Times, 4/16/97, pp. 1, 16.

Israeli newspaper *Ha'aretz* reported that North Korea recently supplied Iran with computer software used in the manufacture of surface-to-surface missiles. Iran is helping North Korea finance improvements to the Nodong-1 missile in exchange for the developed technology. Japanese and U.S. intelligence sources say that Iran will have the ability to manufacture the improved missile within two years.

Ha'aretz, [Online] <http://www.haaretz.com>, in FBIS-NES-97-080, 4/24/97.

In an unclassified 25-page set of responses to questions, the U.S. Department of State has officially informed Congress that the Chinese government has sold cruise missiles to Iran. The report said that it is "a matter of public record that China has transferred a number of C-802 ship-based anti-ship cruise missiles to Iran."

Washington Post, [Online], <http://www.washingtonpost.com>, 5/31/97.

As part of a joint program with China, Iran is developing a 100 km-range, solid-fuel missile, the NP-110. The program involves Iran's use of Chinese x-ray equipment to examine missile casings and to check the state of the solid-fuel rocket motor.

Washington Times, 6/17/97, p. A3.

IRAQ

Missile

On 3/8/97 and 3/9/97, parts from approximately 130 destroyed Iraqi missiles were shipped from Iraq through Bahrain to the United States for analysis. The parts were sent to a U.S. Department of Defense laboratory in Huntsville, Alabama, to determine if they came from Soviet-made Scuds and

whether critical components, which Iraq is unable to produce, were removed before the missiles were destroyed. According to the German newspaper *Bild*, 16 German companies are currently under investigation on suspicion of supplying Iraq with Scud missile components and nuclear technology.

Arms Control Today, 3/97, p. 29.

ISRAEL

Missile

U.S. Defense Secretary William Cohen and Israeli Defense Minister Yitzhak Mordechai agreed in 4/97 to extend cooperation on the Arrow anti-tactical ballistic missile (ATBM) and on developing a tactical high-energy laser to counter Katyusha rockets. The U.S. pledged a 25 percent increase in its annual \$200 million contribution to the Arrow project.

Jane's Defence Weekly, 4/9/97, p. 4.

Nearly 400 rocket scientists participated in a four-day closed meeting in Eilat, Israel, sponsored by the U.S. Ballistic Missile Defense Organization (BMDO). Speakers at the conference said that ballistic and cruise missiles are becoming greater threats due to falling prices and increasing sophistication resulting from competition among the growing number of missile producers. They said that despite intensified efforts, no concrete results have yet been achieved in developing countermeasures and advanced missile-defense systems.

Ha'aretz (Tel Aviv), 6/24/97; in FBIS-TAC-97-176, 6/25/97; *Defense News*, 7/14/97-7/20/97, pp. 1, 20.

KUWAIT

Missile

On 2/14/97, the first of eight fast patrol craft built for Kuwait was launched at CMN's Cherbourg shipyard in France. According to CMN, the boats will be fitted with British Aerospace Sea Skua anti-ship missiles.

Jane's Defence Weekly, 2/19/97, p. 14.

LIBYA

Nuclear

Italian news agencies reported that a DC-9 passenger jet, which crashed into the Tyrrhenian Sea on 6/27/80 near the island of Ustica, Italy, during a flight from Bologna

to Palermo, may have been carrying uranium intended for eventual delivery by sea to Libya. Italian authorities recently increased efforts to solve the mystery of the crash, in which 81 passengers died. Chemists and nuclear scientists commissioned to examine the wreckage discovered trace elements of uranium in what had been the aircraft's hold. However, Rosario Priore, the magistrate investigating the crash, cautioned that "[the uranium traces] may be contamination" rather than evidence that the aircraft was carrying uranium fuel.

Reuter, 4/1/97; in *NNN News*, 4/1/97; Reuter, 4/2/97; in *NNN News*, 4/2/97.

Missile

Indian Intelligence Bureau officials detained P. Srinivas Rao on 5/2/97 at the Hyderabad Airport on suspicion of attempting to deliver information on missile technology to Libya. According to police sources, Rao is a defense scientist in Hyderabad who was traveling to Libya via Bombay. Previously, a former scientist was detained for similar reasons at the Bangalore airport.

Hindu, [Online] <http://www.webpage.com/hindu/today>, 5/3/97, p. 11.

SAUDI ARABIA

Missile

Saudi Arabia has approached China and Russia regarding possible replacements for its aging fleet of 30-40 Chinese-made [3,000 km-range] CSS-2 [DF-3] surface-to-surface missiles.

Flight International, 4/16/97, p. 6.

SOUTH AFRICA

Nuclear

South African Deputy Foreign Minister Aziz Fahd was quoted by the Israeli newspaper *Ha'aretz* as saying that the flash recorded by a U.S. Vela satellite above the Indian Ocean in 9/79 "certainly was a nuclear test." South Africa's previous government had stated that Pretoria never conducted a nuclear test, nor was it involved in the nuclear tests of any other country. When asked whether Israel was involved in the 1979 test, Fahd replied that there was "close cooperation" between South Africa and Israel in military matters.

Ha'aretz (Tel Aviv), [Online] <http://>

www.haaretz.co.il, 4/21/97; in FBIS-NES-97-082, 4/21/97.

Missile

Armstrong, the state-owned weapons export firm, and Denel, its privatized manufacturing subsidiary, opened offices in Beijing, Paris, Switzerland, Moscow, Tel Aviv, Kuala Lumpur, and New York, to expand South African arms exports.

The Black World Today, 3/8/97.

South Africa's Denel Group and the French firm Aerospatiale agreed in 3/97 to increase cooperation in several fields, including tactical missiles, helicopters, and military aircraft.

ANC Daily News Briefing, [Online] gopher://gopher.anc.org.za:70/00/anc/newsbrief/1997,3/19/97.

SYRIA

Missile

Western intelligence sources and Israeli military officials reportedly believe that Syria is in the preliminary stages of arming surface-to-surface missiles with VX nerve gas warheads.

Ha'aretz (Tel Aviv), [Online] <http://www.haaretz.co.il>, 4/29/97; in FBIS-TAC-97-119, 4/29/97; *Ha'aretz* (Tel Aviv), 5/11/97, p. B5; in FBIS-NES-97-092, 5/11/97.

A Russian military delegation visited Syria in 4/97 to discuss revival of bilateral military cooperation and modernization of Syrian weapon systems. The delegation included the Russian army's chief of staff, and representatives from Rosvoorouzhnie and the MAPO corporation (which manufactures MiG-29 and MiG-31 aircraft). Rosvoorouzhnie discussed selling S-300 air-defense systems to Syria.

Al-Dustur (Amman), 4/28/97, p. 16, in FBIS-NES-97-121, 5/1/97.

SOUTH AMERICA

ARGENTINA

Nuclear

The Argentine Senate approved legislation to allow privatization of the state-owned Embalse and Atucha-1 and -2 nuclear power plants, which will be sold as a package. The law guarantees nonproliferation and mandates that the state remain sole owner of fissile material in irradiated fuel.

Telam (Buenos Aires), 4/2/97; in FBIS-LAT-97-093, 4/3/97; *Nuclear Law Bulletin* 59, 6/97, pp. 43-44.

Technical specialists from Sandia National Laboratory in the United States and the Argentine National Board of Nuclear Regulation (ENREN) evaluated operation of a remote-monitoring system at the Embalse nuclear power plant over a 16-month period. They concluded that the system "demonstrated its adequacy for safeguards purposes," and serves as "an attractive alternative to routine 'in situ' safeguards inspections...in many high-security installations."

Journal of Nuclear Materials Management, 6/97, pp. 81-84.

BRAZIL

Nuclear

Germany sought to extradite from Brazil Karl-Heinz Schaab, a German uranium enrichment expert who aided Iraq's secret nuclear program. Schaab was arrested in Rio de Janeiro in late 1996, based on evidence that he sold Urenco design blueprints to Iraq. Germany charged Schaab with treason, which Brazil considers a political crime. Under national law, Brazil is not obligated to extradite suspects charged with political crimes.

Nucleonics Week, 3/20/97, pp. 17-18.

Brazil's plan to construct an experimental gas-graphite nuclear reactor was confirmed by the Strategic Affairs Secretariat (SAE) and the Army Ministry. According to Army Minister Zenildo Lucena and Environment

Minister Gustavo Krause, the reactor will have a maximum power of 0.5 MW, and will be built at a Brazilian university that has not yet been selected. The SAE said the army will direct the project because it has the most experience in this area. The SAE approved the project on 8/6/96, but did not authorize publication of the army's written rationale. Three universities have reportedly expressed interest in hosting the reactor.

Jornal do Brazil (Rio de Janeiro), 6/5/97, p. 3; in FBIS-LAT-97-156, 6/5/97; *Folha de Sao Paulo*, [Online] <http://www.uol.com.br/fsp/cotidian/ff050650.htm>, 6/5/97.

President Fernando Henrique Cardoso requested that Congress approve Brazil's accession to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), marking the end of nearly three decades of Brazilian rejection of the treaty. Foreign Minister Luiz Felipe Lampreia noted that while Brazilian leaders still view the NPT as discriminatory, they believe this step is necessary to improve Brazil's international standing and boost its chance of winning a permanent seat on the UN Security Council. General Alberto Cardoso, chief military advisor to the president, said the armed forces no longer resisted the NPT and that there was a favorable climate for approval in Congress. The inter-ministerial policy paper justifying the shift noted that as an NPT member, Brazil will emphasize a "discourse of delegitimation of nuclear arms." In this and other ways Brazil will promote the "complete elimination" of nuclear weapons.

Folha de Sao Paulo, [Online] <http://www.uol.com.br/fsp/brasil/fc210614.htm>, 6/21/97; Agencia Estado (Sao Paulo), 6/20/97; in FBIS-LAT-97-121, 6/20/97; EM INTERMINISTERIAL #/MJ/MM/MEx/MRE/MAEr/EMFA/CC-PR/CM-PR/SAE-PR, 1997, Brasilia, [Online] <http://www.mre.gov.br/sei/emtnp.htm>; *Press Note #232*, Ministry of Foreign Relations, Brasilia, [Online] <http://www.mre.gov.br/sei/impren.htm>, 6/20/97.

COLOMBIA

Nuclear

An investigator from the German Federal Office of Criminal Investigations, Peter Kroemer, interviewed an unnamed Colombian informant regarding a report that plutonium smuggler Justiniano Torres offered to sell nuclear material stored in Bogota and in

Germany. The informer said Torres planned to sell 5,000 g of plutonium and 2,300 g of uranium for \$40 million to Cuba. He stated that this material was stored north of Bogota, and that Torres had another 9,000 g of plutonium stored in Germany. A vial provided by the informant and a second container seized from representatives of the suppliers by Colombian police were found not to contain plutonium, but rather Strontium-90 and U-235 at a purity of 0.7 percent. Kroemer concluded that the claim regarding plutonium storage in Germany was "implausible," but expressed concern regarding involvement of the Colombian National Liberation Army—recently involved in kidnappings of German citizens—in nuclear smuggling.

Munich Focus, 6/30/97, p. 42; in FBIS-WEU-97-182, 7/1/97.

CUBA

Nuclear

According to Nuclear Energy Minister Yevgeniy Reshetnikov, Russia may resume construction at the Juragua nuclear power plant in Cuba in early 1998. Construction will be financed by an international consortium not yet formed, but Russia will retain ownership. Firms from the United Kingdom, Germany, and Brazil have shown interest in participating. According to the Russian Nuclear Society, approximately \$500 million is needed to complete the first VVER-440 light water reactor, and an additional \$700 million for the second.

ITAR-TASS (Moscow), 6/5/97; in FBIS-SOV-97-156, 6/5/97; NucNet News, 3/17/97, p. 25; *Nezavisimaya gazeta* (Moscow), 6/11/97, p. 4; in FBIS-SOV-97-162, 6/11/97.