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Articles & Other Documents:

[For Sale: Nuclear Expertise](#)

[World In Brief](#)

[In Face Of Report, Iran Acknowledges Buying Nuclear Components](#)

[U.N. Monitors Libya's Vow to Scrap Nukes](#)

[Rogue Nukes](#)

[Libya's Arms Development Surprises U.N.](#)

[Another Nuclear Program Found In Iran](#)

[N. Korea May Have Nuclear Backup Plan](#)

[China Brings Shift On Nukes To Korea Talks](#)

[Air Force Research Lab Works On Shredder Chem-Bio Defeat Weapon](#)

[Outbreak Points Out Vulnerability Of U.S. Food Supply](#)

[FBI Releases Details Of Letter With Ricin Sent to White House](#)

[U.N. Agency, In Libya, Adds To List Of Suppliers For A-Arms Programs](#)

[Key Player In Nuclear Trade Ring Found Hospitable Base In Malaysia](#)

[Nonproliferation: Improvements Needed to Better Control Technology Exports for Cruise Missiles and Unmanned Aerial Vehicles \(GAO Report\)](#)

[Homeland Security: Federal Action Needed to Address Security Challenges at Chemical Facilities \(GAO Report\)](#)

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Los Angeles Times

February 22, 2004

Pg. 1

For Sale: Nuclear Expertise

Emerging details of a Pakistani scientist's network raise questions about how far it spread technology and why it wasn't stopped sooner.

By Douglas Frantz and Josh Meyer, Times Staff Writers

VIENNA — Pakistani scientist Abdul Qadeer Khan presided over a nuclear smuggling operation so brazen that the government weapons laboratory he ran distributed a glossy sales brochure offering sophisticated technology and shipped some of its most sensitive equipment directly from Pakistan to countries such as Libya and North Korea. The brochure, with photos of Khan and an array of weapons on the cover, listed a complete range of equipment for separating nuclear fuel from uranium. Also for sale were Khan's "consultancy and advisory services," and conventional weapons such as missiles, according to a copy of the brochure provided to the Los Angeles Times. Although Pakistan has stopped Khan, the brochure is among the emerging details of the scope of his enterprise. They raise new questions about how far Khan's network spread nuclear know-how and why authorities didn't move against it sooner.

The extent of the ring remains unknown, and even some of Khan's suppliers might not have known they were involved. Inspectors from the Vienna-based International Atomic Energy Agency, or IAEA, and intelligence and law enforcement authorities on three continents are trying to reconstruct what they consider the worst nuclear proliferation network in history, and to dismantle it.

Top diplomats in Vienna and senior U.S. officials say they are urgently trying to determine whether blueprints for a nuclear warhead and designs to build the device, which were sold to Libya, and highly sensitive data and equipment shipped to Iran and North Korea, might have spread beyond those countries. In addition, investigators have not been able to account for much of the equipment the network bought.

"Who knows where it has gone?" said a senior U.S. intelligence official, who described the Bush administration as deeply worried. "How many other people are there? How widespread was it, and how much information has spread?"

Questions also are being asked about whether the U.S. missed opportunities to stop Khan. The Pakistani scientist's full-service nuclear trafficking network operated for nearly two decades, often under the cover of his government lab, even as Western intelligence agencies grew more suspicious of him and senior U.S. officials repeatedly protested to Pakistan.

CIA director George J. Tenet said this month that the agency penetrated elements of the smuggling ring in recent years, but needed proof to stop it. Other administration officials and outside experts suggested, however, that at least parts of the enterprise could have been shut down.

"If you have penetrated the system, why not stop it before Libya got the weapons design?" a senior European diplomat based in Vienna asked. "There is no limitation on a copying machine."

Diplomats and officials in Europe and Washington who are involved in the inquiry or have been briefed on it spoke mostly on condition of anonymity because the investigation is ongoing and politically sensitive. Among the new details that have emerged:

- *Sensitive equipment discovered at nuclear-related sites in Libya carried the name of Khan Research Laboratories, adding to what authorities described as irrefutable evidence that his center illicitly shared its technology with a country under United Nations sanctions for supporting terrorism.

- *Evidence indicates that Khan provided Pakistan's state-of-the-art centrifuge machines to North Korea in the late 1990s. Two Western diplomats described the information as preliminary, but they said it deepens concerns about North Korea's progress in enriching uranium for atomic weapons.

- *Authorities at the IAEA last week reopened an investigation of an alleged offer by Khan to sell nuclear technology and a weapons design to Saddam Hussein in 1990. The inquiry started in 1995 with the discovery of memos in Iraq, but it hit a roadblock when Pakistan called the offer a hoax.

U.S. intelligence officials and diplomats say they have known the broad outlines of Khan's activities since at least 1995.

Three times from 1998 to 2000, President Clinton raised concerns about nuclear technology leaking from Pakistan to North Korea during private meetings with Prime Minister Nawaz Sharif and President Pervez Musharraf, the general who replaced him in a 1999 coup.

"In each case, President Clinton was assured that these concerns would be looked into and would be dealt with appropriately," recalls Karl Inderfurth, who as assistant secretary of State was Clinton's chief South Asia troubleshooter. "To my knowledge, we did not receive any satisfactory responses to our concerns. It is now clear the smoke we saw at the time was indeed the fires being set by A.Q. Khan."

The U.S. concerns were inherited by the Bush administration, and fears escalated after disclosures in late 2001 that two Pakistani nuclear scientists had met twice that year with Osama bin Laden in Afghanistan.

In response to U.S. pressure, Musharraf removed Khan in March 2001 as head of Pakistan's main nuclear weapons laboratory, where he had developed fissile material for atomic weapons as well as long-range missiles. Musharraf continued to deny that nuclear secrets had leaked, and Khan continued to hold international nuclear conferences and to travel widely.

The denials finally collapsed late last year after Iran was forced to open portions of its nuclear program to IAEA inspectors and Libya voluntarily renounced its weapons program.

Although the Iranian disclosures provided strong hints, reams of documents and nuclear hardware turned over to the U.S. and IAEA by Libya pointed the finger squarely at Khan.

The most alarming documents were blueprints for the nuclear warhead, said diplomats and U.S. officials involved in the process. The plans were for a warhead developed in the 1960s by China, which provided early help to Pakistan's nuclear program. Two diplomats in Vienna said Khan sold the blueprints to Libya in late 2001 or early 2002 for as much as \$20 million.

Inspectors in Libya also found the equipment from Khan's laboratory and components for two generations of Pakistani centrifuges. Diplomats in Vienna said complete versions of the earliest type of centrifuge, known as the P1, were obtained directly from Pakistan and components for the next generation P2, which was faster and more efficient, were manufactured for the network at a Malaysian plant.

Centrifuges are used to purify uranium for use as fuel for nuclear power plants or to enrich it to high levels for use in bombs. Experts say obtaining highly enriched uranium or other fissile material is the most crucial step in building an atomic weapon.

Weeks before Libya gave up its secrets, Iran had made a more limited disclosure to the IAEA of how it obtained drawings and components for 500 P1 machines through middlemen associated with Khan's network. Iran acknowledged this month that it also had received plans for the more advanced P2 from Pakistan. Diplomats said Tehran had taken halting steps to develop those machines.

"What the Iranian and Libyan cases did was produce actual items so that you can't deny them," said another diplomat in Vienna. "Until this breakthrough, I don't think anyone had real hard evidence."

By the time Pakistan was forced to move against Khan, however, Iran had used his technology to develop its own uranium enrichment cycle, moving closer to what the United States says is an effort to build a nuclear bomb. And Libya had the warhead designs for more than a year.

U.S. authorities say that although the CIA, State Department and National Security Council knew the outlines of Khan's activities, gathering proof was painstaking and difficult and they could not have moved against him sooner. They also said the CIA wanted to learn as much as possible about the ring before bringing it down.

"Certainly we had questions about A.Q. [Khan] going way back, about his predisposition to share information and technology," said a senior Bush administration official with long involvement in nonproliferation.

But investigators can only assemble the complete picture piece by piece, the official said. "You never get the whole thing dumped in your lap. Once you get the whole picture, it's easy to see what to do about it."

On Feb. 4, Khan said in a televised confession that he had sold nuclear technology to Iran, Libya and North Korea. He said he had acted alone and was guilty of "errors in judgment."

Musharraf, the former head of the Pakistani army, pardoned Khan the next day and later said the scientist would be allowed to keep what U.S. officials believe is a fortune in real estate and other holdings accumulated in recent years.

U.S. officials said they regard Khan's claim that he had acted alone as a move to protect military leaders who oversaw Pakistan's nuclear program. Some acknowledged, however, that Khan's popularity as the father of Pakistan's atomic bomb gave him a high degree of autonomy and made it hard for any Pakistani leader to move against him.

Khan, 67, is tall and given to khaki suits. He claimed in his written confession to Pakistani authorities that he wanted to distract Western pressure from Pakistan's nuclear program by spreading the technology, particularly to Muslim countries, but some Pakistani officials have said he was motivated by a desire for wealth.

U.S. intelligence has accused Pakistan of trading its nuclear technology for North Korean missile technology in the late 1990s, something that both Pakistani and North Korean officials continue to deny. U.S. intelligence officials also say Khan made 13 trips to the isolated country.

Two Vienna-based diplomats said evidence surfacing from participants in Khan's network indicated that the North Koreans bought designs and components for Pakistan's most advanced centrifuge, the P3. They cautioned, however, that the accusations had not been corroborated.

Musharraf also told the Financial Times on Tuesday that he had found no evidence that Libya had received nuclear secrets from Pakistan.

But the Pakistanis have been sharing some information about Khan's activities with the IAEA and U.S. intelligence in what one Vienna-based diplomat involved called "a painful process for Pakistan." Outsiders have not been permitted to interrogate Khan, increasing concerns that full details of the network may never be known, diplomats and U.S. officials said.

New branches of the network are being uncovered almost daily, but the investigators' progress is tempered by fears about how much wider its products have spread. Not all of the nuclear equipment sold by the network got to Iran or

Libya, raising questions about who else might have made purchases, said a Vienna-based diplomat involved in the investigation.

"These people have been doing business all over the world," said Robert Oakley, a former U.S. ambassador to Pakistan. "It is a huge problem and it goes far beyond A.Q. Khan. Nobody paid attention to what they were doing."

Birth of a System

The network's first customer was Pakistan itself.

When Pakistan embarked on its nuclear weapons effort after India's first atomic test in 1974, Khan returned from the Netherlands, where he had been working with plans for a centrifuge that he was later convicted of stealing. Pakistan could not manufacture the equipment, so he developed a network of European suppliers. His scheme was not secret for long.

"The Pakistanis have been actively purchasing parts and equipment for their centrifuge program in various countries, sometimes disguising their activities by providing false end-use statements," said a 1983 State Department paper that recently was declassified.

Throughout the 1980s and early 1990s, companies in the Netherlands, Germany and Switzerland were linked to sales of nuclear technology to Pakistan. A few individuals were convicted of violating export laws, but most eluded charges because sales involved equipment that had civilian as well as military applications.

In unraveling the more recent sales to Iran and Libya, IAEA inspectors turned up equipment and transactions traceable to some of the same people and companies.

A Dutch businessman, Henk Slebos, a college friend of Khan who was convicted in 1985 of trying to ship high-tech equipment to Khan's laboratory, is suspected of providing equipment to Libya in the late 1990s, diplomats in Vienna and U.S. authorities said. He could not be reached for comment.

Two generations of two families from Britain and Germany also appear to have been involved, said U.S. officials and diplomats.

In both cases, the fathers helped provide equipment to Pakistan and the sons played roles in sales to Iran and Libya. "Pakistan itself created the network by purchasing from it, then they reversed the flow and started selling," said a senior diplomat in Vienna working on the inquiry.

Iran apparently was the first outside customer. Khan told Pakistani authorities that he sold drawings for the P1 centrifuge to Tehran in 1987. By then, Pakistan had abandoned the earlier design in favor of a more advanced machine.

The Iranians wanted to produce all of the components and equipment for a huge centrifuge operation themselves, but found it impossible even with Khan's drawings.

A centrifuge requires about 100 components, many manufactured from special material to precise tolerances. The machines spin at enormous speeds to separate the enriched uranium, and the slightest deviation can lead to catastrophic failure.

"When they realized how difficult it was, they went back and bought components for 500 centrifuges from Pakistan to learn more about their behavior and create their own indigenous industry," one diplomat said. The equipment was shipped by freighter to Iran in 1994 or 1995, diplomats said. Khan also provided what one diplomat called "a shopping list" of where to go for other equipment.

A report released Friday by Malaysian police said one of the participants in the network, a Sri Lankan named Buhary Syed abu Tahir, told them that Iran paid about \$3 million for centrifuge units and delivered the money in cash to an apartment in Dubai, United Arab Emirates, used by Khan when he was in the city.

By 2002, Iran had succeeded in perfecting the centrifuges, even improving on the P1 design. It also had secretly started work on an underground plant capable of holding 50,000 of the centrifuges to start an enrichment program. Tehran maintained that its nuclear program was aimed at generating electricity, but the U.S. said the discovery of the underground plant and a string of other once-hidden activities indicated that Iran intended to build an atomic bomb. In an effort to prove that its program was peaceful, Tehran provided fuller access and extensive documentation to the IAEA last fall. Among the disclosures were links to middlemen from Khan's network.

There is no evidence that Iran acquired plans for a nuclear weapon from the Khan network, but U.S. officials and diplomats in Vienna said they still were pressing the Iranians, the Pakistanis and elements of the network for a definitive answer. So far, they haven't gotten it.

Suspicious Memos

In autumn 1990, a Greek approached Iraq's secret intelligence service with a putative offer from Khan to provide help building centrifuges and designs for a nuclear bomb, according to documents and two diplomats.

"We have enclosed for you the following proposal from Pakistani scientist Dr. Abdul Qadeer Khan regarding the possibility of helping Iraq establish a project to enrich uranium and manufacture a nuclear weapon," said a memo dated Oct. 6, 1990, which was written by Iraq's intelligence service to a contact in its nuclear weapons program.

Another document said the initial cost would be \$5 million, plus a 10% commission for Khan on everything purchased. Iraq already had spent billions of dollars trying to enrich uranium for an atomic bomb, with mixed results.

Four pages of memos about the offer were discovered in August 1995 by IAEA inspectors who were dismantling Iraq's nuclear program in the wake of the Persian Gulf War. Iraqi officials initially denied getting an offer from Khan, and then said they rejected it because they feared it was a U.S. sting operation. A more likely reason, said one diplomat, was the timing. Iraq had invaded Kuwait in August 1990 and by October was on the verge of war with a U.S.-led coalition.

IAEA officials turned to Pakistan for help, but were told that the offer was a hoax. Requests for assistance from U.S. intelligence turned up no other information. Inspectors also approached a former Iraqi security officer who had been involved in the talks, but he had defected to another country and refused to talk to them.

The diplomats said the IAEA has reopened its inquiry because of the striking similarities between what Iraq was offered and what Libya bought from Khan.

The Iraq memo was not the only red flag that Pakistan was exporting nuclear secrets. In May 1995, the Washington Post reported that Pakistan had helped Iran with a "blueprint" for acquiring nuclear weapons at least four years earlier. The State Department dismissed the story.

David Albright, a former IAEA weapons inspector, said there were plenty of indications that year that Iran was working on a nuclear program and getting help from Pakistan and other countries.

The U.S. persuaded Russia and China to stop some nuclear transfers to Iran during the mid-1990s, but Albright said Washington was unable to get the proof it needed to act.

"They missed a lot," said Albright, now head of the Washington-based Institute for Science and International Security.

Khan was not shy about advertising his wares, even if he did not advertise his deals. Starting in 1987, he published articles in European journals that disclosed what experts said then was classified information about centrifuges. He held conferences and distributed brochures from his government laboratory offering to sell nuclear-related products, and he operated a website boasting about his expertise.

A reporter for Jane's Defense Weekly picked up some brochures at a conference in Karachi, Pakistan, in 2001 and mentioned them in an article. The cover of one bears a photograph of Khan and the seal of the Pakistani government.

The previously undisclosed brochure provided to The Times appears to have been published in 1999. A nuclear expert who examined it said the key elements were the ultracentrifuges for sale and the offer to provide the expertise to set up the centrifuge lines, though there was no mention of nuclear weapons.

Khan also was willing to "enter into contracts/agreements with national and international agencies for undertaking developmental projects relevant to our expertise," the brochure said.

A senior U.S. official who is closely involved in monitoring the nuclear proliferation efforts was unfamiliar with the brochure but said it sounded like something Khan would do.

"He's the promoter type," the official said, "interested in packaging himself and his abilities."

Libyan Evidence

Definitive proof that Khan's trafficking involved atomic weapons, too, arrived in late December. After months of secret talks with the United States and Britain, Libya announced that it was giving up its nuclear program and chemical and biological weapons.

When IAEA inspectors were allowed into Libya's 12 nuclear sites, they discovered Pakistani-designed centrifuges still in their crates and the equipment bearing the stamp of Khan's laboratory, a diplomat who saw the material said. In his speech this month, the CIA's Tenet said Khan's "network was shaving years off the nuclear weapons development timelines of several states, including Libya."

Libyan officials told the IAEA that they had worked from 1982 to 1992 on a nuclear program before giving up in frustration, two diplomats in Vienna said.

A German flight engineer named Emil Stachli ran the program, using his own centrifuge design. Libya bought equipment overseas, including a specialized furnace from Japan in 1985 and vacuum pumps from Europe, but Stachli made no real progress before he returned to Germany, the diplomats said.

In 1997, Libya, a potential gold mine for suppliers because of its oil wealth, connected with Khan and his network. A diplomat who reviewed Libya's paperwork and talked with its officials said Libya intended to purchase a "turnkey" process that would allow it to build a nuclear weapon.

Khan initially sold Libya 20 assembled P1 centrifuges, which were flown directly to Libya from Pakistan, diplomats said. With technical help provided by the network, the Libyans set up a single array of centrifuges, called a cascade, and had their first successful test in late 2000.

But diplomats said Khan did not have enough P1 components to equip an enrichment plant, so he persuaded Libya to switch to the more advanced P2 machines with the promise of better prices in September 2000. By this time, Pakistan had moved on to a more efficient centrifuge, the P3.

"The Libyans told us, 'We got a deal and grabbed it,' " a diplomat in Vienna said.

They also bought plans for the Chinese-designed warhead and drawings for fabricating the weapon, according to two diplomats and an IAEA report issued Friday.

Khan made arrangements through two Dubai-based companies to manufacture components for 10,000 P2 centrifuges at a plant in Malaysia. Hussein Haniff, Malaysia's ambassador to the IAEA in Vienna, said the company, in which the son of the Malaysian prime minister is a major shareholder, did not know that it was making parts for a centrifuge. Diplomats familiar with Khan's network find that plausible.

"Very often sellers did not know where the equipment was ending up," said one of the diplomats. "A Swedish firm sold vacuum pumps to a man in Switzerland that it thought were for Coca-Cola. Then the Swiss sent them to Dubai, which sent them on to Libya."

On the other hand, the IAEA report said that some of Libya's suppliers removed serial numbers from equipment to disguise its origins before shipping it.

The tactics were almost identical to Khan's use of front companies and deception to help build Pakistan's atomic bomb, but the network was expanded to a one-stop operation that provided a complete package of centrifuges, technical expertise and bomb designs.

Investigators said they had identified suppliers in Turkey, Belgium, the Netherlands, Germany, Switzerland, Spain, South Africa, Russia and Japan.

People reviewing both the Libyan and Iranian purchases said they couldn't determine how much money the two countries paid Khan and members of his network. Not everything was written down, prices were marked up numerous times and many payments were made in cash. One diplomat estimated that Libya paid \$50 million to \$100 million.

The flow was huge. From 2001 to late last year, several thousand components arrived in Libya along with a shipment from Pakistan of uranium hexafluoride, the gas used as feedstock for centrifuges, diplomats involved in reviewing the material said.

None of the centrifuges had been assembled because the company providing rotors made from super-hard steel had not delivered them by October, when U.S. intelligence intercepted a shipment of five containers of centrifuge components from the Malaysian firm.

Secret negotiations to persuade the Libyans to give up their program had been underway since the previous spring, but U.S. intelligence officials said intercepting the ship prompted Libya's final decision to abandon its effort and to persuade Musharraf to act against Khan.

What remains unclear and alarming, said U.S. officials and diplomats, is who else got help.

"Names are floating around," said a diplomat involved in the inquiry. "It's only a question of time until we find them."

Iraqi memo

In 1990, Iraq's secret intelligence service was approached with a putative offer from Abdul Qadeer Khan of help in building centrifuges and a nuclear bomb. Here is an excerpt from a related memo from Iraqi intelligence to its nuclear weapons program:

We have enclosed for you the following proposal from Pakistani scientist Dr. Abdul Qadeer Khan regarding the possibility of helping Iraq establish a project to enrich uranium and manufacture a nuclear weapon. The above-mentioned expressed it as follows:

1. He is prepared to give us project designs for a nuclear bomb.
2. Ensure any requirements or materials from Western European countries via a company he owns in Dubai.
3. Request a preliminary technical meeting to consult on the documents that he will present to us. However, the current circumstances do not allow for an immediate meeting with the above-mentioned. There is the possibility of a meeting with the intermediary that we have connections and good relations with in Greece.
4. The motive behind this proposal is gaining profits for him and the intermediary.

Source: Institute for Science and International Security

Frantz reported from Vienna and Meyer from Washington.

<http://www.latimes.com/la-fg-nuke22feb22,1,6800294.story>

[\(Return to Articles and Documents List\)](#)

Washington Post
February 22, 2004
Pg. 21

World In Brief

Asia

ISLAMABAD, Pakistan -- Pakistan took delivery of a short-range nuclear-capable ballistic missile, a military statement said.

The "indigenously produced" surface-to-surface solid-fuel missile Hatf-III Ghaznavi was delivered to the Army Strategic Force Command at a ceremony attended by the president, Gen. Pervez Musharraf, it said.

"Pakistan's nuclear capability is for the sole purpose of deterrence of aggression against Pakistan and for the defense of our sovereignty," the statement quoted Musharraf as saying.

<http://www.washingtonpost.com/wp-dyn/articles/A61061-2004Feb21.html>

[\(Return to Articles and Documents List\)](#)

New York Times
February 23, 2004

In Face Of Report, Iran Acknowledges Buying Nuclear Components

By David E. Sanger

WASHINGTON, Feb. 22 — Faced with the imminent release of a report by international nuclear inspectors, Iran acknowledged publicly on Sunday that it had secretly purchased components for its nuclear program from a network of international suppliers, but continued to insist that its program was for electricity production, not nuclear weapons.

The statement, by the Foreign Ministry, came after the head of the Supreme National Security Council, Hassan Rohani, met in Vienna with the director general of the International Atomic Energy Agency, Mohamed ElBaradei.

European and American diplomats say they believe that Dr. ElBaradei summarized the results of a report the I.A.E.A. is expected to release this week about Iran's nuclear program, including details that Iran withheld last fall when, under intense pressure from Europe and the United States, it revealed 18 years of secret nuclear activity.

"The Iranians are admitting to the dimensions of their program bit by bit, as they are confronted with individual pieces of evidence," said one senior American official involved in the investigations of the nuclear trading network set up by Abdul Qadeer Khan, the father of the Pakistani bomb. "Compare it to what the Libyans are doing. I'm convinced the Libyans are voluntarily showing us everything," the official said, referring to Libya's decision to dismantle all of its nuclear weapons program. "The Iranians are still stonewalling."

Reuters reported Sunday that the spokesman for Iran's Foreign Ministry, Hamid Reza Asefi, said that "we have bought some things from some dealers but we don't know what the source was or what country they came from." He insisted that every purchase had been reported to the I.A.E.A.

Iran's statements are significant because few American or European officials believe they yet understand how far the country's nuclear program has gotten, or how close the country may be to producing a nuclear weapon. Because Mr. Khan's network sold Libya equipment, full warhead designs, and the raw uranium gas that must be enriched to produce bomb fuel, American officials say they assume that Iran received the same package of goods.

On Friday, the Malaysian police released a report of its interrogations of B. S. A. Tahir, whom President Bush has identified as Dr. Khan's chief lieutenant. In the report, the police quoted Mr. Tahir as saying that Iran paid about \$3 million for parts to manufacture centrifuges, which turn the uranium into highly enriched bomb fuel. The parts arrived in Iran in 1994 or 1995, officials said, about seven years after the first transactions between Iran and Pakistan. That shipment was something of a surprise to American officials, who until recently only had evidence of Pakistani shipments to Iran in the 1980's.

It now appears that the later shipments were part of an effort to sell Iran a more sophisticated type of centrifuge, called a P-2, which enriches uranium more efficiently than the first models sold to Tehran. The Iranians say they informed the I.A.E.A. last fall that they had worked experimentally with the P-2 design, but some agency officials say the information was only passed along after it became clear that Dr. Khan was being interrogated.

Iran's failure to declare all of its nuclear program is to be described, in muted terms, in the I.A.E.A.'s report this week. "It's a report that no one will like," said one senior European diplomat. "The Americans will not like the fact that the agency does not declare that the Iranians were making a weapon," a charge that President Bush leveled directly in a speech this month. "The Iranians will not like the fact that they are essentially accused of playing a shell game, only revealing the least they think they can get away with."

Iran promised European nations in the fall that it would suspend all of its activities to enrich uranium while the I.A.E.A. inspections of the country continued. But the Iranian government has defined "suspend" very literally, and it continues to manufacture parts for centrifuges that could ultimately improve the capacities of its enrichment facilities at Natanz.

American officials say they are following up on a number of leads in the report about the interrogations of Mr. Tahir, a Sri Lankan who lives mostly in Malaysia. But the Malaysian authorities said Saturday that Mr. Tahir committed no crime and is free to travel.

Raymond Bonner contributed reporting from London for this article.

<http://www.nytimes.com/2004/02/23/politics/23NUKE.html>

[\(Return to Articles and Documents List\)](#)

New York Times

U.N. Monitors Libya's Vow to Scrap Nukes

By THE ASSOCIATED PRESS

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Filed at 11:40 a.m. ET

TRIPOLI, Libya (AP) -- Some key elements of Libya's nuclear weapons program remain in place three months after its government pledged to scrap them, but Tripoli remains committed to keeping its promise, the head of the U.N. atomic watchdog agency said Monday.

Mohamed ElBaradei, director general of the International Atomic Energy agency, held out the prospect of support to Libya for research and other peaceful uses of nuclear energy, once all components of Libya's two-decade arms program effort are dismantled.

He spoke to reporters between meetings with senior Libyan officials aimed at monitoring the government's commitment to mothball and dismantle its uranium enrichment capabilities and other equipment and know-how acquired largely through the black market headed by Pakistani scientist Abdul Qadeer Khan.

With world attention riveted on that nuclear network -- which for decades provided Libya, Iran and North Korea with the technology and equipment to build weapons -- diplomats familiar with the agency said ElBaradei was also looking for new pieces in that puzzle.

"It's part of our discussion. The Libyan authorities have been very cooperative in that sense, we have learned a lot through our discussions with the Libyans on network supply, which as you know also is in Iran and possibly other countries," ElBaradei said before meeting with Libyan officials. "There is interconnectivity between supply in Iran and supply in Libya."

IAEA spokeswoman Melissa Fleming said that information provided by Libya as part of its commitment to disarm was crucial to identifying that network, its key players, and the roles they played in ferrying equipment and expertise to nations willing to pay hundreds of millions of dollars for the means to acquire nuclear arms.

Asked for a progress report on getting all the names and details of the black-market network, an official from the delegation, speaking on condition of anonymity, said: "We're more than halfway there."

Since the first revelations from Libya in December, Khan, the father of Pakistan's nuclear weapons program, has confessed to heading the operation described by ElBaradei as a "nuclear supermarket" with middlemen on five continents.

Libya's openness on the illicit trade network helped the IAEA "understand the most serious case of proliferation in recent time," Fleming said.

Khan and dozens of associates circumvented national export controls in Europe, Asia and elsewhere to ship nuclear technology to Libya, which managed to hide experiments geared to making weapons for nearly two decades.

Among the most startling discoveries were engineers' drawings of a 1960s warhead of Chinese design apparently provided by those linked to Khan, who originally turned to Beijing to develop Pakistan's nuclear weapons.

While far away from building such arms, Libya also managed to process minute quantities of plutonium, used in the core of nuclear warheads, says a report by ElBaradei that was written for an IAEA board of governors meeting next month.

"They have cooperated already in dismantling ... sensitive aspects of the program," ElBaradei said. "There are still some sensitive parts, and again discussion is going on dismantling those parts."

ElBaradei said, without elaborating, that his agency was ready to support Libya's wish to "continue with extended peaceful use activities ... once we eliminate the military related programs."

Talks also were focusing on shipping highly enriched uranium -- which can be used in the core of nuclear warheads -- from a Libyan research reactor back to Russia, which originally provided it, and replacing it with low-enriched fuel, without weapons applications.

Centrifuge designs and other technology originating from Pakistan and found in Libya also were apparently sold to Iran, which has acknowledged hiding nearly two decades of nuclear activity but insists its programs are meant to produce electricity, not weapons.

North Korea denies any link to Khan, but U.S. intelligence and Khan's associates have said that Pyongyang also received help in its nuclear weapons program from his network.

A diplomat said the Libyan revelations helped the agency link Iran's illicit program to the Khan operation.

"Things that the IAEA was learning from Iran strongly implicated Pakistan, but finding another country ordering from the same network exposed the whole workings and international connections of that network," including ties to Iran, said the diplomat, speaking on condition of anonymity.

Iran has been less forthcoming than Libya on its sources. It confirmed Sunday it has purchased nuclear equipment from international dealers, including some from the Indian subcontinent, but said it doesn't know where the components came from.

It has made the same argument to the IAEA, saying only the intermediaries that supplied it know the origins of the parts.

A report from Malaysian authorities last week said Iran had bought \$3 million in used uranium centrifuge parts from the Khan operation.

<http://www.nytimes.com/aponline/international/AP-Nuclear-Agency-Libya.html>

[\(Return to Articles and Documents List\)](#)

Newsweek

March 1, 2004

Periscope

Rogue Nukes

A Swiss connection to a Pakistani bomb racket?

By Mark Hosenball

Did Abdul Qadeer Khan, the notorious Pakistani nuclear proliferator, get help from a prominent Swiss family? Investigators have been unraveling the maze of connections that allowed Khan to supply the budding nuclear-weapons programs of rogue states like Iraq and Libya. Police in Malaysia allege that members of the Tinner family of St. Gallen canton were involved in a recent scheme to set up a factory for making nuclear-bomb production equipment for Libya.

The Malaysians say that retired Swiss high-tech entrepreneur Friedrich Tinner, an acquaintance of Khan's since the 1970s, arranged shipments of sophisticated machine tools to the Malaysian factory. Authorities say companies owned by Tinner's son Marco also supplied machinery. And another son, Urs, lived in Kuala Lumpur for three years to supervise operations in the factory that investigators now believe was producing centrifuge parts for Muammar Kaddafi's fledgling Manhattan Project. Urs Tinner confirmed to NEWSWEEK that he had spent time as a supervisor in the Malaysia factory, but he said he did not know where the parts were being sent. The family later issued a statement denying wrongdoing and saying that it was working with authorities.

U.S., European and Asian investigators say the Tinnings, like other alleged Khan associates, have been known to international anti-proliferation monitors for years. In the mid-1990s, United Nations inspectors presented Swiss authorities with documents from Iraq showing that Friedrich Tinner had allegedly sold Saddam Hussein what investigators believed were parts for a possible bomb-fuel production line. The Swiss investigated Tinner but accepted his assertion that he did not know the products were headed for Iraq.

After 9/11, interest in the Tinnings was renewed when investigators discovered a series of circuitous money transfers from Dubai to Swiss bank accounts and companies controlled by Marco Tinner. NEWSWEEK has learned that some of the money was allegedly routed through a Dubai currency exchange used by the 9/11 hijackers. The Tinnings say they're still owed money and know nothing about a possible 9/11 connection.

What's likely to happen to the Tinnings? Probably nothing. The family members, who in the past have never been found to have broken any laws, deny wrongdoing, and Swiss authorities say it will be hard to get evidence to bring charges. In fact, Swiss prosecutors have never successfully pursued a case against suspected nuclear-equipment middlemen; the crime, they say, is hard to track and even harder to prove.

<http://www.msnbc.msn.com/id/4339744/>

[\(Return to Articles and Documents List\)](#)

Los Angeles Times

February 21, 2004

Libya's Arms Development Surprises U.N.

Program, which dates to the early 1980s, has produced plutonium and assembled the basic components to enrich uranium for a weapon.

By Douglas Frantz, Times Staff Writer

ISTANBUL, Turkey — Libya was operating a more advanced and longer-running program to develop nuclear weapons than outside intelligence agencies and nuclear watchdogs had imagined, according to a confidential report Friday by the United Nations' nuclear watchdog.

The analysis by the International Atomic Energy Agency, or IAEA, showed that Libya's program dated to the early 1980s and had succeeded in producing a small amount of plutonium and assembling the basic components to enrich uranium for a nuclear weapon.

Libya announced in December that it was abandoning its nuclear weapons program after months of secret negotiations with the United States and Britain. As part of its decision, Libya opened its nuclear sites to inspectors from the IAEA.

Libya has acknowledged obtaining much of its nuclear technology, including designs for a nuclear warhead, from a network headed by Pakistani scientist Abdul Qadeer Khan.

"It is evident already that a network has existed whereby actual technological know-how originates from one source, while the delivery of equipment and some of the materials have taken place through intermediaries," the report said. The report said that some suppliers in the network were unaware of the destination for their equipment and that others must have known because they had removed serial numbers from material.

But the IAEA report made it clear that Libya's nuclear ambitions existed before its contact with Khan in the mid-1990s and extended beyond the global network he assembled.

Information provided to the U.N. agency by Libyan officials showed that work started on a nuclear program in the early 1980s and that the country purchased a considerable amount of equipment overseas.

Jon B. Wolfsthal, a nuclear expert at the Carnegie Endowment for International Peace, said in a telephone interview that he was shocked by the length of time Libya had been operating a secret weapons program.

"We knew that Libya had an interest in nuclear technology, but the duration and the depth of it is surprising," he said. "The other thing is the sheer size of what they were trying to acquire."

The report said Libya ordered 10,000 advanced uranium centrifuges, which are used to convert uranium into fissile material for nuclear weapons.

Although the IAEA did not identify the source of the centrifuges, Libya acknowledged earlier that it had tried to buy them from Khan.

The IAEA director-general, Mohamed ElBaradei, issued the 10-page report Friday night to members of the agency's governing board. A copy of the report was provided to The Times.

Malaysian authorities also released a report dealing with Libya's nuclear program Friday. Based on information provided by one of Khan's middlemen who was involved with a Malaysian company, the report outlined nuclear technology sent to the North African country from the late 1990s to last year by suppliers in Pakistan, Turkey, Britain, Switzerland, Germany and Malaysia.

Some names had surfaced earlier in the inquiry, but the Malaysian report was the first to name Turkish companies. Two Turkish businessmen were reported to have supplied electronics, aluminum casings and electrical cabinets for Libya's centrifuge program.

Details about the plan to enrich uranium for bombs through centrifuges had surfaced in recent weeks, but information about the plutonium extraction was kept secret until the IAEA report.

Libya managed to separate very small quantities of plutonium from spent reactor fuel from a research reactor between 1984 and 1990 while the reactor was being monitored by the IAEA, according to the report.

Like enriched uranium, plutonium can be used to make an atomic weapon. The report said that the quantity of plutonium was far less than the amount needed for a weapon and that no uranium had been enriched.

Libya was the third country known to have diverted plutonium from a reactor despite IAEA safeguards. Iraq managed to do so before the 1991 Persian Gulf War, and North Korea also secretly transferred plutonium to a separation facility while IAEA inspectors were monitoring its nuclear plants.

Libya is a signatory to the Nuclear Nonproliferation Treaty and is required to report its nuclear activities to the IAEA. But ElBaradei said he would not recommend referring the violations to the U.N. Security Council because of Libya's cooperation since December.

A Western diplomat said he did not expect the U.S. to push for referring the matter to the Security Council for possible sanctions.

<http://www.latimes.com/news/nationworld/world/la-fg-libya21feb21,1,2353858.story>

[\(Return to Articles and Documents List\)](#)

Another Nuclear Program Found In Iran

Undisclosed Experiments Heighten Suspicions About Intent to Make Arms

By Karl Vick, Washington Post Foreign Service

TEHRAN, Feb. 23 -- International Atomic Energy Agency inspectors have discovered that Iran produced and experimented with polonium, an element useful in initiating the chain reaction that produces a nuclear explosion, according to two people familiar with a report the inspectors will submit to the United Nations this week.

Iran reportedly acknowledged the experiments but offered an explanation involving another of polonium's other possible uses, which include power generation. The IAEA noted the explanation and left the issue "hanging there," said one person familiar with the matter. The experiments were described by this person as occurring "some time ago."

The discovery is the latest example of a nuclear activity that Iran had not previously disclosed. Earlier, it was revealed that Iran had obtained plans and parts for a nuclear centrifuge, a sophisticated machine used to enrich uranium for use in power plants, as well as in nuclear weapons. Iran insists it always intended its nuclear program to be used only to supply electrical power.

Polonium is a radioactive, silvery-gray or black metallic element. The most common natural isotope is polonium-210. It has some industrial purposes, but can also be utilized, in combination with beryllium, to make sure that the chain reaction leading to a nuclear explosion is initiated at precisely the right moment.

"It does heighten suspicions because polonium-210 is so linked to a certain type of neutron-initiator," said David Albright, an expert on nuclear proliferation at the Institute for Science and International Security. "But it's not an ideal neutron-initiator. It doesn't last long, so you've got to keep producing it."

Polonium-210 has a half-life of 138 days. Experts say research on polonium would be done early in a weapons program. "It's quite clear they were trying to make an explosive device," said one person with knowledge of the polonium discovery. "But they hadn't gotten far enough. No one will find a smoking gun because they weren't able to make a gun"

The disclosures present an unwelcome political challenge for Iran, which was hoping to put the nuclear issue behind it before March 8, when the full board of the IAEA convenes in Vienna. Instead, diplomats said Iranian officials were bracing for a report raising enough questions to keep the nuclear issue alive.

"They are going to be facing this problem for a while," said one diplomat.

"We remain committed to our obligations under the International Atomic Energy Agency," Foreign Ministry spokesman Hamid Reza Asefi said on Sunday, while acknowledging to reporters that Iran had acquired nuclear equipment from "middlemen" representing a Pakistani nuclear scientist. "We've never pursued nuclear arms and will never do so," he said.

The disclosures come as Iran is undergoing fresh inspections by the IAEA, the U.N. body charged with enforcing the 1970 nuclear Non-Proliferation Treaty. Iran was facing a deadline for disclosing its nuclear activities late last year when three European countries persuaded its government to accede to international pressure to open its nuclear program. Iran agreed to permit more rigorous inspections, suspend uranium enrichment and make a full accounting of nuclear programs it had kept largely secret for 18 years.

Inspections appear to have gone smoothly. Iran's state-controlled media make no mention of the presence of the foreign inspectors. And though one foreign official said the IAEA would prefer that Iranian officials be "more proactive" in revealing previously hidden elements, Iranian officials have made no effort to block the inspectors when they follow leads they generate themselves.

On the other hand, their discoveries corrode Iran's already fragile credibility. Neither the polonium work nor plans for a P-2 centrifuge were mentioned in Iran's earlier "comprehensive" summary. Discovery of the P-2 centrifuge design and components -- revealed after Libya exposed a black market in nuclear programs run out of Pakistan -- was especially damaging to trust, officials said.

"They say it was an oversight. The IAEA people don't think it was an oversight," said one analyst here. "You have forces that want to keep things secret."

Albright, who has written extensively on Iran's nuclear program, said, "The Libyan bomb design looks like what China gave Pakistan, and why wouldn't have Iran gotten it?"

"There's a lot of pressure on Iran," he said. "And I don't think it's credible that Iran says it never had a military nuclear program. To me, it's not so much a suspicion, it's more of an assessment that Iran did have a nuclear weapons program."

Privately, many foreign and Iranian analysts agree. "The intention is clear from the fact they had a clandestine program," said one analyst, who would not be identified by nationality or position. Begun by Iran's own accounting at the height of its 1980-88 war with Iraq, the nuclear program is believed to have been chiefly under the control of the hard-line Islamic Revolution Guard Corps. Iraqi President Saddam Hussein was using chemical weapons on the front line, and Iran was internationally isolated.

One Iranian political figure said powerful figures in Iran's religious government -- whom diplomats have said agreed only reluctantly to the agreement brokered by Britain, France and Germany -- rebuffed the pleas of some inside government to reveal the military side of the atomic program at the time, when it might have done so without penalty.

"I think it was because they wanted to conclude things in a way that it did not look like they had been totally defeated," he said.

In fact, no firm proof of a weapons program has emerged from Iran's far-ranging nuclear activities. But several analysts said they expect more evidence trails to emerge from a prodigious record that Iranian officials have pleaded they have trouble sorting through themselves.

By the time a working gas centrifuge and other advanced components of the clandestine program began coming to light a year ago, outside experts were stunned to see Iran had set out to produce enriched uranium by four distinct methods. The end product could be used either for generating power or, if enriched to weapons grade, for making warheads.

<http://www.washingtonpost.com/wp-dyn/articles/A551-2004Feb23.html>

[\(Return to Articles and Documents List\)](#)

Los Angeles Times
February 24, 2004

N. Korea May Have Nuclear Backup Plan

Pyongyang has indicated it would shut down a plutonium-based program, but the U.S. suspects it has another using uranium.

By Barbara Demick, Times Staff Writer

YOKOHAMA, Japan — The middle-aged woman didn't attract any suspicion when she boarded China Air Flight 160 from Nagoya to Beijing.

Her inconspicuous nylon suitcase went through the baggage check and customs without incident on Nov. 20. Had it not been for the Japanese police, who had been investigating the woman and an associate for months, North Korea might well have acquired another component to build a nuclear bomb.

The suitcase contained an inverter, a 3-pound, \$1,500 electrical device that controls the spinning of an appliance such as a washing machine or even a centrifuge. Intelligence agencies suspect that the part was headed for North Korea, which may indicate that Pyongyang is forging ahead with a nuclear program that uses centrifuges to enrich uranium for bombs.

"We're almost certain [the inverter] was not intended to be used for a washing machine," said Kiyo Kudo, a Yokohama police superintendent who is handling the case.

The woman, an ethnic Korean, and her business partner, were arrested in January on charges of violating Japan's export-control laws. They are to stand trial March 10 in Yokohama. The inverter was returned to Japan from China.

This week, representatives from six nations converge on Beijing for a summit aimed at convincing North Korea to give up its nuclear weapons development. Although Pyongyang has signaled it is ready to shut down a large complex that produces weapons-grade plutonium in return for economic aid and security guarantees, the U.S. suspects that North Korea has an ace up its sleeve — a highly enriched uranium program.

U.S. officials say North Korea admitted during talks in October 2002 that it had a program to enrich uranium but has since denied making such an admission.

"The story about the 'enriched uranium program' much touted by the U.S. is nothing but a whopping lie," the North's official Korean Central News Agency said Saturday.

The Bush administration says the North's denials threaten the entire negotiating process, which also involves South Korea, China, Japan and Russia.

"You can't reach the issue of complete dismantlement, let alone verification, if they don't admit that it exists," John R. Bolton, undersecretary of State for arms control, told reporters last week in Tokyo.

Pakistani nuclear scientist Abdul Qadeer Khan recently admitted selling North Korea, along with Iran and Libya, instructions and prototypes for building a highly enriched uranium program.

Among parties to the six-country talks, there is much disagreement about how far along the North Koreans are with their uranium program. The Chinese have told U.S. diplomats they are not convinced that the program exists, while South Koreans believe it is only in an experimental stage.

The problem for U.S. intelligence is that the uranium program is thought to be hidden away in North Korea's vast labyrinth of caves and tunnels, unseen by the prying eyes of aerial surveillance. As a result, intelligence agencies have had to piece together how much progress the North Koreans may have made by examining the components they've bought on the open market. It is, in effect, like solving a jigsaw puzzle with the pieces scattered across the globe.

The inverter is only one of many such pieces.

Li Yong Sun, 52, the ethnic Korean charged with smuggling the inverter, is the sister-in-law of a North Korean security official, according to Japanese police. For several years before her arrest, she had been working with a Japanese businessman, shipping consumer goods like toothbrushes, underwear and snack foods to North Korea. Last summer, Yoshifumi Yoshihara, 44, applied to Japanese customs to include the electric inverter in a shipment of other goods going from Yokohama to North Korea, but permission was denied because of the device's potential military use, according to police. Police charge that the pair then arranged for Li to slip the inverter into her suitcase on a flight to Beijing, where they allegedly intended to send it on to Pyongyang.

Kim Sung Sik, a Tokyo-based lawyer for the defendants, said the part was intended for an industrial washing machine.

A U.S. military source, who spoke on the condition of anonymity, said sarcastically, "I've never heard anything about North Korea having a domestic washing-machine industry."

While the U.S. hopes the case bolsters its claim that North Korea is persisting with the uranium program, others are less sure.

"The inverter case is very tricky. There are a number of different uses for inverters. It may not be possible to determine whether it was intended for missiles or a centrifuge or something entirely different," said Gary Samore, a nonproliferation expert with the International Institute for Strategic Studies in London.

Moreover, Samore said the case — along with several others in which potential weapon components had been intercepted — suggests that "North Korea might still have a long way to go in their highly enriched uranium program."

CIA Sounds Warning

A CIA fact sheet distributed to Congress in November 2002 said the agency had recently obtained "clear evidence indicating that the North had begun constructing a centrifuge facility" and that the plant could be operational "as soon as mid-decade."

The U.S. told allies last summer that its intelligence services believed the North Korean highly enriched uranium facility was 18 months away from producing the fissile material for a bomb.

But Samore and many other analysts believe that estimate is overreaching.

"We think the U.S. claims are a little exaggerated, not as much as with Iraq, but still we have to be careful of what the U.S. says," said an Asian diplomat, who asked not to be identified.

North Korea has abundant natural uranium — about 26 million tons, according to a geological survey done in the early 20th century. Pakistan, which sold it the uranium enrichment technology, has been one of the best customers for North Korean missiles.

"It appears there was a quid pro quo — highly enriched uranium technology for missile technology," said an intelligence source who spoke on the condition he not be named.

Nuclear Starter Kit

The assistance provided by Khan apparently was like a do-it-yourself kit: samples of uranium hexafluoride gas used in the process, blueprints, technical data and centrifuges that Pakistan developed from a design Khan had stolen from a Dutch company he worked at in the 1970s.

But nuclear experts believe Khan gave North Korea only enough centrifuges to use as prototypes, whereas at least 2,000 are required to build a highly enriched uranium factory.

"This is the type of technology they cannot produce on their own. They have to go buy various things for these centrifuges like baffles and bellows, inverters, rotors and casings, and many of them are subject to export controls," said Fred McGoldrick, a retired State Department official with decades of experience in nuclear nonproliferation.

Japan has long been North Korea's shopping mall of choice when it comes to military components. It has the advantages of proximity, advanced technology and a large population of ethnic Koreans, many with family ties to the North or to the pro-Pyongyang General Assn. of Korean Residents in Japan.

One company, Meishin Electric, last year was caught shipping three electronic devices known as direct-current stabilizers to North Korea through an intermediary in Thailand. Japanese investigators found that the end user was to

be Daesong General Trading Corp., a military procurement company that is believed to report to North Korean leader Kim Jong Il.

Meishin's president, Kim Hak Chun, pleaded guilty this month to export violations and was sentenced to one year in prison and three years' probation. His company was fined \$18,400.

Japan cracked down on exports to North Korea in April 2002 and recently has become an active player in President Bush's Proliferation Security Initiative, which calls for increased efforts to intercept weapons of mass destruction or their components headed to "rogue" nations. As a result, North Korea has been doing much of its shopping in Europe.

The biggest bust was made in April of last year, when French and German authorities intercepted a French cargo ship, the *Ville de Virgo*, in the eastern Mediterranean. It was carrying, among other goods, 214 aluminum tubes in the precise dimension needed for the outer casings of a centrifuge known as the G2.

As in Asia, investigators uncovered signs of a sophisticated procurement network. The aluminum tubing purchase was allegedly arranged by a North Korean diplomat stationed in Austria, according to sources. The North Koreans also own Golden Star Bank in Vienna, which has been involved in purchases of technology.

Still, skeptics say that even the interception of the aluminum tubes shows that the North hasn't gotten very far with a nuclear program.

"I don't see the smoking gun," says David Albright, a physicist and president of the Washington-based Institute for Science and International Security, a think tank. "It has been known for years that they have a research and development program with centrifuges and that was somewhat tolerated. But the really important thing is whether they have made the jump from R&D to a plant that could make a bomb or more a year, and there really isn't as much evidence as one would think to support that."

The American military source concedes there is no incontrovertible evidence.

"But when you see how much money the North Koreans have spent on these materials over the years, when they have so little money to spend, you have enough grounds for a reasonable conviction about what they are after."

Hisako Ueno of The Times' Tokyo Bureau contributed to this report.

<http://www.latimes.com/news/nationworld/world/la-fg-uranium24feb24.1.1601905.story?coll=la-headlines-world>

[\(Return to Articles and Documents List\)](#)

Christian Science Monitor

February 24, 2004

Pg. 1

China Brings Shift On Nukes To Korea Talks

By Robert Marquand, Staff Writer of The Christian Science Monitor

BEIJING – As China Wednesday hosts the first talks in six months on North Korea's nuclear bid, Beijing's new, younger leaders are backing a significant policy change on the development of weapons of mass destruction.

The new doctrine, which has come into sharp relief between these two rounds of talks, creates implicit pressure on North Korea to reverse its nuclear program. It also brings China closer to a traditional Western "arms control" position and closer to those in the Bush administration who want to prohibit "rogue" states from acquiring nuclear weapons.

For decades in the UN and in international forums China held that states had the right to develop whatever self-defense methods they chose. The principle originated in a socialist theory of equality among states, and meshed with China's efforts dating to the 1950s to export revolution to developing countries, particularly strategic allies. The footprints of that policy were embarrassingly on display this month - amid evidence that China assisted Pakistan's nuclear program, and after Chinese language instructions for atomic weapons parts and designs were found in Libya. US officials still complain that Chinese export controls of weapons technology are ill-enforced.

Yet as Beijing tackles the problem of plutonium and suspected enriched uranium programs across the Yalu River in North Korea, and as it contemplates a circle of neighbors with nuclear capability, it is shifting its policy. In semiofficial publications, in a little noticed white paper on nonproliferation late last year, and in interviews with senior Beijing sources conducted for this report, sources say the old policy of indifference, or tacit official acquiescence of sensitive technology sales by Chinese firms to states desiring a nuclear card, are ending.

"China is moving toward a direction of nonproliferation," argues Jin Lin Bo, Asia director of the China Institute of International Studies, an influential government think tank. "Our national goals are different from 30 years ago, when we did not allow any links to Western civilization. In the past, we treated proliferation as someone else's business, having nothing to do with China. Or we saw it through an anti-US lens. Now we see it as part of our security, and a desire to be a wealthy state acceptable to others."

Factors involved in the new thinking in China, experts say, include China's desire to present a mainstream international image that will enhance its attractiveness as a haven for investment.

An unusually full treatment in a magazine called *Oriental Outlook* - published by Xinhua, China's official news service - describes how the Chinese people have been ignoring the fact that China is now "surrounded by nuclear states," including Russia, India, and Pakistan. Taiwan has long held blueprints for nuclear weapons, and should North Korea collapse and unify, there would be a substantially stronger regional rival right on China's border. Japanese military leaders have in recent years broken an old taboo on discussing the possibility of nuclear accession.

Arms control zeitgeist

Other factors involved in China's new "arms control" focus have to do with the atmosphere created by Libya's renunciation of a nuclear threat, the US invasion of Iraq following UN weapons inspections, and the revelations in Pakistan of a network of nuclear exports by Abdul Qadeer Khan, father of the Pakistani bomb. Some Chinese strategists worry about nuclear terrorism, with the potential of an Al Qaeda-like cell showing up, for example, in the far west Xinjiang region.

A fundamental shift by China means the Kim Jong Il regime may not in the long run count on protection from Beijing, its historic ally. This week's six-party talks, the third time China has hosted a multilateral forum since April, will be comprised of the US, Russia, North and South Korea, China, and Japan. The talks were grudgingly agreed to by China last spring after the US refused to meet one-on-one with North Korea amid a crisis that included the eviction of UN monitors from a North Korean nuclear reactor site, and the potential reprocessing of weapons-grade plutonium fuel rods.

Tensions started in the fall of 2002 after US envoy James Kelly presented evidence in Pyongyang of a secret enriched uranium program and North Korea admitted to it, according to Kelly and two US officials present. US officials Monday indicated that a signal of progress this week would be an admission by North Korea to having an enriched uranium program. Japan's Kyodo news service Monday reported that North Korea may agree this week to a complete dismantling of its weapons of mass destruction programs. US officials are skeptical, however. One palpable indicator of a change in China's policy came last week after the visit here of John Bolton, US undersecretary of State for arms control and a leading Bush team hawk. Mr. Bolton, known to advocate "regime change," is deeply disliked in Pyongyang. Last summer he made headlines with a speech in Seoul that described the state of North Korea as a "hellish nightmare" for its system of concentration camps and lack of food and care for ordinary people.

In Beijing, Bolton emerged from meetings in an upbeat comport, describing a "commitment at the top levels of the Chinese government to prevent the spread" of nuclear weapons.

"Bolton left Beijing with kind words, if you can believe that," argues a specialist at a Pentagon-funded think tank in the US. "At least for now, the Chinese are saying the kind of things he wants to hear."

New doctrine has top support

One high-level source here close to the Foreign Ministry was asked if leaders like President Hu Jintao, influential Standing Committee member Zheng Qinhong, and six-party talks negotiator Wang Yi agreed with a nonproliferation doctrine. "These leaders are moving in that direction. At a minimum," he responded.

On Feb. 12, the Chinese ambassador to the disarmament conference in Geneva stated that China was committed to battling proliferation, and he referenced a Dec. 3, 2003 white paper that offers precise details of China's treaties restricting exports on nuclear, biological, and chemical weapons.

"Nonproliferation is the goal, especially for the new generation of leaders like Hu Jintao," says Zhang Lian Gui of the Communist Central Party School in Beijing. "For China to try and create this image is a necessity.

Nonproliferation is something not avoidable for China in this time."

<http://www.csmonitor.com/2004/0224/p01s02-woap.html>

[\(Return to Articles and Documents List\)](#)

Defense Daily

February 24, 2004

Pg. 5

Air Force Research Lab Works On Shredder Chem-Bio Defeat Weapon

By Sharon Weinberger

The Air Force Research Laboratory (ARFL) Munitions Directorate continues work on a new chemical and biological defeat weapon, called the Shredder, which attempts to minimize collateral damage, according to documents and a contract solicitation.

The modestly funded program is supposed to develop a blast-fragmentation kill mechanism paired with a neutralizing payload "that decreases agent release while maintaining the mass properties of a BLU-109 warhead," according to a recent AFRL slide briefing reviewed by *Defense Daily*.

Alliant Techsystems [ATK] was awarded a \$15 million contract award from the Air Force last summer to develop the Shredder penetrator weapon (*Defense Daily*, Aug. 6).

The Air Force and Navy have been working on advanced agent defeat weapons for many years, but have had difficulties developing explosive fills that can neutralize agent like anthrax without releasing the material into the air. The Pentagon, according to sources, is now conducting a comprehensive review of agent defeat and other counter proliferation weapons programs.

Last year, AFRL issued a contract solicitation to develop the Shredder "agent defeat" munition designed to destroy chemical and biological agents. The goal of the new program, according to the announcement, was to develop a weapon that could destroy biological agents stored in hardened targets, without releasing the material into the air. "A number of studies have shown the need for a penetrating weapon that is capable of delivering an alternative payload within a hardened structure in a manner that minimizes blast overpressure while inflicting damage to the target contents and limiting collateral damage," according to the release.

According to the AFRL slide briefing, the Shredder would consist of modified BLU-109 munitions and a center bursting tube with PBXN-109 fill.

But the Shredder is only funded through a static demonstration testing planned for next year, and according to AFRL documents, there are unfunded plans to perform tests against a hardened structure and operational flight tests. Additionally, there are no funds to build the approximately 20 Shredder warheads needed as part of an initial capability buy.

Another part of the AFRL's unfounded plans for Shredder is to develop an advanced energetic version that would replace the white phosphorus fill with an advanced payload. The new fill would be designed to further reduce collateral damage.

The Pentagon has started a number of new biological and chemical defeat programs in recent years, including an Advanced Concept Technology Demonstration for the NAVSEA Surface Warfare Center to develop another type of agent defeat weapon. That program uses either a BLU-109 or a GBU-24E/B, but the neutralizing agents are filled in five bomblets stacked in a series of layers designed to defeat aerosolized biological weapons.

Lockheed Martin's [LMT] Missiles and Fire Control Advanced Projects is involved in the Navy's agent-defeat program.

According to Navy documents, the first phase of the program, preliminary design and demonstration, is scheduled for completion this month.

[\(Return to Articles and Documents List\)](#)

Washington Times

February 24, 2004

Pg. 1

Outbreak Points Out Vulnerability Of U.S. Food Supply

By Jeffrey Sparshott, The Washington Times

An isolated case of mad cow disease and an outbreak of bird flu on U.S. farms indicates the vulnerability of American agriculture to disease — either spread accidentally or intentionally — and the economic disruption that could result.

Federal and Texas agriculture officials said yesterday that they had diagnosed a highly contagious and, for poultry, deadly strain of avian influenza on a Texas farm. The disease also spread to live bird markets in Houston.

The quick spread of disease among highly concentrated animal populations is one soft spot in the U.S. food system that terrorists may exploit to taint food and damage the economy, according to government and industry officials.

President Bush last month issued a Homeland Security Presidential Directive to establish a national policy to defend the agriculture and food system against terrorist attacks, major disasters and other emergencies.

The Homeland Security Department will take the lead in coordinating numerous government agencies, farmers, processors and medical professionals involved in an "extensive, open, interconnected, diverse and complex structure providing potential targets for terrorist attacks," the president said in the directive.

"We should provide the best protection possible against a successful attack on the United States agriculture and food system, which could have catastrophic health and economic effects," he said.

The agriculture and food sectors offer multiple, often vulnerable targets from farm to table — including crops, livestock, processing and distribution facilities, wholesale and retail outlets, storage, transportation and research

labs, Lawrence J. Dyckman, director of natural resources and the environment for the General Accounting Office, told a congressional panel in November.

Farmers long have been attuned to the dangers of diseases such as mad cow disease and avian influenza.

"This is nothing new for agriculture, but certainly it shows that we are a vulnerable sector and we have to work to make sure we have the resources and dollars to continue a vigorous program [against animal disease and pest control]," said Caroline Rydell, director of congressional relations with the American Farm Bureau, an industry group.

But a terrorist attack on the food system would bring a new level of uncertainty to a vital sector of the economy. Food production accounts for about 10 percent of annual economic output in the country, according to the Commerce Department. And although farming directly employs less than 3 percent of the American population, one in eight persons works in an occupation directly supported by food production, according to a study published this year by the Rand National Defense Research Institute, a federally funded research and development center, for the Office of the Secretary of Defense.

"Unfortunately, the agriculture and food industries are vulnerable to deliberate [and accidental] disruption," Peter Chalk, an associate political scientist at Rand, said in the report.

"The fiscal downstream effect of a major act of sabotage against the food industry would ... be multidimensional, reverberating through other sectors of the U.S. economy and ultimately impacting directly on the American consumer," he added.

With mad cow, a fatal disease technically called bovine spongiform encephalopathy (BSE), and avian influenza, U.S. farmers lost overseas markets when countries banned some American beef and poultry. In the case of beef, more than \$3 billion in annual exports were shut down in a matter of days and have yet to resume.

Those cases were spread naturally. The infected cow likely contracted BSE when it ate tainted feed, and the chickens catch and spread avian influenza through contact with migratory waterfowl, one another, or with people or machines that unintentionally track the disease from farm to farm.

Dr. Ron DeHaven, chief veterinary officer with the U.S. Agriculture Department, said yesterday that biosecurity standards in the U.S. poultry industry allowed officials to catch the bird flu early and contain it.

"So we have, at least within this country, a commercial industry that is very tuned to the need for good biosecurity. And there will be a real emphasis now in that area obviously because of known infection," he said during a conference call.

Bioterrorism or agroterrorism, the intentional spread of disease, is almost unknown in the United States. In 1984, a sect poisoned salad bars in Oregon with salmonella bacteria, causing 750 persons to become ill. In January 2003, 92 persons became ill after buying ground beef from a Michigan supermarket that was intentionally contaminated with nicotine, according to a GAO report in November.

But an attack on the U.S. food supply is a concern. When Agriculture Secretary Ann M. Veneman disclosed the United States' first case of mad cow disease Dec. 23, she quickly moved to reassure a country concerned about terrorism that it had not been attacked.

"I would emphasize that based on the information available this incident is not terrorist related, nor is it related in any way to our nation's heightened alert status. I cannot stress this point strongly enough," she said at a news conference.

Some loops are closing, or at least being more closely monitored. The Bioterrorism Act of 2002, for example, required the Food and Drug Administration to register by the end of last year foreign and domestic facilities that manufacture, process, pack or hold food for human consumption.

Sen. Jim Talent, Missouri Republican, has promoted creation of an agroterrorism center to better assess risks and deal with potential threats. The mad cow and avian influenza cases should help move forward such efforts to improve farm and food safety, he said.

"The safety system we have was designed to deal with unintentionally occurring situations. We have to ask about intentional incidents, is the system ready for that? I think we don't know yet," Mr. Talent said.

<http://www.washtimes.com/business/20040223-113735-7683r.htm>

[\(Return to Articles and Documents List\)](#)

Washington Post

FBI Releases Details Of Letter With Ricin Sent to White House

Postmark Was Weeks Before Discovery

By Dan Eggen

Washington Post Staff Writer

Tuesday, February 24, 2004; Page A03

A letter containing ricin poison that was sent to the White House last fall threatened to "turn D.C. into a ghost town" and was postmarked in Tennessee three weeks before the Secret Service discovered it, the FBI said yesterday. Officials also disclosed that the ricin powder found in the envelope was loosely sprinkled on the letter rather than contained in a vial, as it had been in a related case. The letter was one of two signed by "Fallen Angel," who complained about trucking regulations that require more rest periods for long-haul truckers.

Officials said the envelope was postmarked Oct. 17 in Chattanooga and received Nov. 6 at an off-site facility that processes mail addressed to the White House, and that Secret Service employees discovered it that day. Addressed by hand to "The White House," it contained a typewritten letter addressed to the "Department of transportation," according to a copy released by the FBI.

"If you change the hours of service on January 4, 2004 I will turn D.C into a ghost town," the letter read. "The powder on the letter is RICIN have a nice day Fallen Angel."

Laboratory tests confirmed that the powder in the envelope was ricin, a poison made from castor beans, federal officials said.

The information the FBI released yesterday casts new light on simultaneous probes into the two ricin letters and, to a lesser extent, into the discovery of a small amount of ricin Feb. 2 on a mail-opening machine in an office of Senate Majority Leader Bill Frist (R-Tenn.). Investigators have not found a letter or envelope in connection with the discovery in the Dirksen Senate Office Building, and authorities said yesterday that they have found no direct evidence linking that case with the letters.

In addition to the letter sent to the White House, "Fallen Angel" signed another typewritten letter that was addressed to the Department of Transportation and found Oct. 15 at an airport mail facility in Greenville, S.C. The envelope included a metal vial that contained ricin and similar complaints about trucking regulations.

In its news release yesterday, the FBI formally extended a \$100,000 reward to include either of the letters. The White House ricin mailing had been kept secret until after the Frist discovery, and the FBI had not officially acknowledged its existence until yesterday.

Postal and law enforcement officials yesterday had no detailed explanation why 20 days elapsed between the day the White House letter was postmarked and the day the processing facility received it.

A copy of the envelope released yesterday indicates that the Zip code on the letter was wrong, which would likely have led to some delay, postal officials said. Mail sent to the White House is also processed through an irradiation facility in New Jersey before it is passed on to the off-site mail facility, which is run by the Secret Service, the officials said.

Secret Service spokeswoman Ann Roman said her agency discovered the letter the day it was received, Nov. 6.

Secret Service officials previously acknowledged waiting six days after that to alert the FBI and other federal agencies to the ricin mailing, and they have implemented new procedures to avoid other such delays.

Many lawmakers have complained about the decision to keep the case quiet. Rep. Henry A. Waxman (Calif.), ranking Democrat on the House Committee on Government Reform, criticized what he called "the administration's obsession with secrecy."

"It took the administration a week to inform the Postal Service about the ricin letter, nearly three months to tell the public, and another three weeks to disclose detailed information about the letter," Waxman said in a statement.

"These delays arouse suspicions rather than reassure the public."

No illnesses have been identified in connection with the mailings, authorities said.

Tom O'Neill, a spokesman for the FBI field office in Columbia, S.C., said the writing on the White House envelope is the only handwriting evidence from the mailings. "We want to help generate some leads and make sure the information that was out there was accurate," O'Neill said.

FBI agents have focused largely on the trucking industry in their investigation, and they have issued subpoenas for the work records of nine truck drivers employed by a Little Rock company that transports mail for the Postal Service. Eight of the truckers at Mail Contractors of America Inc. make deliveries to a facility near Greenville-Spartanburg International Airport, where the vial of ricin was discovered in October, and the ninth is a former employee.

<http://www.washingtonpost.com/wp-dyn/articles/A578-2004Feb23.html>

[\(Return to Articles and Documents List\)](#)

New York Times
February 24, 2004

U.N. Agency, In Libya, Adds To List Of Suppliers For A-Arms Programs

By Associated Press

TRIPOLI, Libya, Feb. 23 — The head of the United Nations atomic watchdog agency said Monday that meetings with Libyan officials were producing more names of people and companies involved in supplying other countries with the technology for nuclear arms programs.

Mohamed ElBaradei, director general of the International Atomic Energy Agency, also said crucial elements of Libya's nuclear weapons program remained in place three months after the government pledged to scrap them, though Tripoli is committed to their elimination.

Dr. ElBaradei did not elaborate, but another delegation member said centrifuge equipment that can enrich uranium to weapons grade remains assembled and is still in Libya.

Dr. ElBaradei arrived in Tripoli on Monday to oversee what needs to be scrapped or removed before Libya's nuclear program is stripped of all weapons applications. After meeting with Libyan officials, he said he was confident that that stage would be reached by June.

Other equipment has already been shipped to the United States, which along with Britain negotiated the process that led in December to Libya's declaring the existence of its nuclear weapons programs — and its desire to scrap them.

Dr. ElBaradei said additional countries with illicit nuclear arms programs might be disclosed in investigations by his agency and national intelligence services into the nuclear black market.

Libya, one of the nuclear black market's important customers, identified the market's main supplier, Abdul Qadeer Khan, the father of Pakistan's nuclear weapons program, and more than a dozen of his middlemen. "We are still trying to understand the network," Dr. ElBaradei said. "We are still trying to see whether other countries have received technology, have received weapons designs."

He did not elaborate. But Iran has been identified by diplomats familiar with the agency's work as being suspected of buying nuclear warhead drawings along with the uranium enrichment equipment it now acknowledges having.

<http://www.nytimes.com/2004/02/24/international/africa/24LIBY.html>

[\(Return to Articles and Documents List\)](#)

Washington Post

February 24, 2004

Pg. 12

Key Player In Nuclear Trade Ring Found Hospitable Base In Malaysia

By Alan Sipress, Washington Post Foreign Service

KUALA LUMPUR, Malaysia, Feb. 23 -- When Sri Lankan businessman Buhary Syed Abu Tahir was scouting around three years ago for a country where he could manufacture parts for making nuclear weapons, he initially planned to set up shop in Turkey.

But Tahir, who helped Pakistani scientist Abdul Qadeer Khan build a secret international network for supplying nuclear material and equipment, changed his mind, according to police in Kuala Lumpur. He decided instead to locate a crucial element of the operation in another developing Muslim country: Malaysia.

Tahir's choice was no surprise, say Malaysian and Western analysts, because Malaysia was a stable, relatively industrialized country that had been aggressively promoting business with the rest of the Muslim world. Its liberal visa policy, modern communications and welcoming environment for practicing Muslims had long made it a crossroads for political activists, militants and deal makers from the Middle East, Central Asia and Southeast Asia. But the same attributes that have made Malaysia's economy one of the most successful in the Muslim world -- the country leads the 56-member Organization of the Islamic Conference in the production of non-oil goods and services -- have also attracted people considered undesirable by Western and Asian security officials.

"It's easy, quick, efficient. Do your business and disappear fast, in and out," said Karim Raslan, a Malaysian columnist and social commentator. "Countries that open their borders do become natural crossing points. They're a much easier place to do business. They're a much easier place to hatch dastardly plans."

Kuala Lumpur, for instance, was the place where two hijackers involved in the Sept. 11, 2001, attacks on the United States met in January 2000 and probably discussed preparations for the operation, according to U.S. law enforcement officials. Those two Saudi men, Khalid Almihdhar and Nawaf Alhazmi, traveled to Malaysia and stayed in the Kuala Lumpur condominium of a former Malaysian army captain, Yazid Sufaat, later identified by intelligence officials as a key participant in al Qaeda's efforts to develop biological weapons.

Zacarias Moussaoui, a French citizen facing federal charges in an Alexandria court of involvement in the Sept. 11 attacks, stayed at the same condominium later that year. Malaysian officials say they believe he planned to attend flight school in Kuala Lumpur but could not find one.

The founders of the Southeast Asian terrorist network Jemaah Islamiah built their movement from a base in Malaysia. Activists from the Lebanese militant movement Hezbollah and radical Palestinian groups met periodically here in the 1990s, according to a Western analyst.

After the Sept. 11 hijackings, Malaysia cracked down on suspected Muslim militants. About 70 suspects are now being held under the country's Internal Security Act, which permits detention indefinitely without trial. But former prime minister Mahathir Mohamad, who stepped down last October after 22 years in office, also promoted closer ties among developing countries in part as a counterweight to the influence of the United States and Western nations.

Abdul Razak Baginda, executive director of the Malaysian Strategic Research Center, said Tahir took advantage of Malaysia's interest in pursuing economic ties with the Middle East.

"He found it relatively easy to get this thing going in Malaysia. We wanted to get business, and he was in a position to do that. He probably felt Malaysia was sympathetic to exports to a Muslim country, and he exploited that," Baginda said.

Tahir, 44, who gained residency in Malaysia when he married the daughter of a mid-level Malaysian diplomat in 1998, has not been charged with any crime by Malaysian police.

His business proposal -- to manufacture advanced machine components -- was especially attractive to Malaysia, Baginda said, because the country has been seeking to promote itself through economic incentives, infrastructure and marketing as an international center for advanced engineering. "It really fits into Malaysia's policy," he explained. "It fits nicely into our niche area we are trying to build."

With Malaysia pushing hard to attract foreign investment, local officials apparently did not press Tahir about the ultimate use of the components, Baginda said.

Malaysian and Western officials said authorities here -- and even employees of the company he had invested in, Scomi Precision Engineering -- were unaware that the components being manufactured in the company's plant at Shah Alam, outside Kuala Lumpur, were meant for building centrifuges, used in producing weapons-grade uranium and ultimately bound for Libya's nuclear program.

One of the main investors in Scomi Precision Engineering is Kamaluddin Abdullah, the son of Prime Minister Abdullah Ahmad Badawi. Kamaluddin and a school classmate, Shah Hakim Zain, are controlling shareholders in two investment companies that own the majority of stock in Scomi Group.

After arriving in Malaysia in the mid-1990s, Tahir came to know Kamaluddin and befriended several influential members of Malaysian society. He moved into an upper-middle-class suburb of the capital and earned a reputation among local businessmen for driving flashy cars.

Tahir became a shareholder in one of the investment companies along with Kamaluddin. Later, Tahir's wife took his place, becoming a major shareholder. After Malaysian authorities began their investigation into Tahir's role in the international nuclear network, company officials asked her to sell her shares.

U.S. and other Western officials said the government has been actively investigating the role of the company since components it had made were discovered aboard a German ship intercepted in Italy last October. The parts had initially been shipped to the Persian Gulf emirate of Dubai, where Tahir ran a family computer business and continues to spend most of his time, police said.

Tahir left the Scomi staff "with the impression" that the parts were meant for the oil and gas industry, according to Malaysian investigators. Though the components were also usable in the nuclear industry, Malaysia does not ban the export of so-called dual-use products, making it even more appealing to Tahir as a manufacturing site, Western diplomats said.

Malaysian officials have balked at adopting the kind of restrictions that the United States and other developed countries place on dual-use items.

<http://www.washingtonpost.com/wp-dyn/articles/A697-2004Feb23.html>

[\(Return to Articles and Documents List\)](#)

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[\(Return to Articles and Documents List\)](#)