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### CNS Nuclear and Missile Developments Database: Sample Abstracts

These abstracts were selected from the over 30,000 entries in the CNS Nuclear and Missile Developments Database.

**Doc. Code:** 20722  
**Bibliography:** New York Times, 26 June 2001  
**Headline:** Pakistan Had Nuclear Arsenal in 1989  
**Orig. Source:** Reuters

**Abstract:**

According to Pakistan's former Chief of Army Staff, General (Retd.) Mirza Aslam Beg, Pakistan concluded in 1989 that it had an adequate nuclear deterrent and did not need to increase it. Beg said, "we wanted a credible minimum deterrent and that deterrence is related to the very minimum number of devices that we needed and a very minimum capability to deliver those...and that we achieved in 1989 when Benazir Bhutto was prime minister and that is still the policy we follow."

Beg also claimed that Pakistan's nuclear arsenal was safe because "we [Pakistan] have a bomb-in-the-basement policy where not even a bomb is placed over there, not a device, but components are put together if needed...and then it is many miles away from the delivery system, that is, the missiles and aircraft...that by itself provides tremendous security, an in-built safety which is not understood by people who don't understand the real logic of our program or the restrictions we have imposed on ourselves."

**Doc. Code:** 20644  
**Bibliography:** Dawn (Karachi), 24 July 2000  
**Headline:** Government Regulates Export of Nuclear Materials  
**Orig. Source:**

**Abstract:**

The government of Pakistan published an advertisement on 24 July 2000 announcing the necessary procedures for commercial exports of nuclear material. Prospective exporters would need a "no objection certificate" from the Pakistan Atomic Energy Commission, which would also have the authority to verify and inspect all prospective nuclear exports.

The items listed in the advertisement can be in the form of metal alloys, chemical compounds, or other materials containing any of the following: 1. Natural, depleted, or enriched uranium; 2. Thorium, plutonium, or zirconium; 3. Heavy water, tritium, or beryllium; 4. Natural or artificial radioactive materials with more than 0.002 microcuries per gram; 5. Nuclear-grade graphite with a boron equivalent content of less than five parts per million and density greater than 1.5g/cubic centimeter.

In addition to the materials themselves the advertisement also included a list of equipment "for production, use or application of nuclear energy and generation of electricity" including: 1. Nuclear power reactors and nuclear research reactors; 2. Reactor pressure vessels; 3. Reactor fuel charging and discharging machines; 4. Primary coolant pumps; 5. Reactor control systems and any other items attached to the reactor vessels that control the core power levels or the primary coolant inventory of the reactor core; 6. Neutron flux measuring equipment; 7. Welding machines for end caps for fuel element fabrication; 8. Gas centrifuges and magnet baffles for the separation of uranium isotopes; 9. UF<sub>6</sub> mass spectrometers; 10. Frequency changers; 11. Exchange towers, neutron generator systems, and industrial gamma irradiators for the manufacturing of heavy water.

**Doc. Code:** 20550  
**Bibliography:** Mark Hibbs, *NuclearFuel*, 12 June 2000  
**Headline:** Pakistani Separation Plant Now Producing 8-10kg Plutonium/Yr  
**Orig. Source:**

## Links to Other Resources

- » [Annotated Factsheet of Pakistan's Nuclear Facilities](#)
- » [Safety of Pakistan's Nuclear Arsenal and Installations](#)
- » [Pakistan Special Weapons Guide](#)
- » [Nuclear Weapons Database - Pakistan's Possible Nuclear Delivery Systems](#)
- » [Pakistan Biological Weapons](#)
- » [Pakistan Chemical Weapons](#)
- » [Pakistan's Instrument of Ratification \(Chemical Weapons Convention\)](#)
- » [Joint Declaration on the Complete Prohibition of Chemical Weapons, August 19, 1992 \(New Delhi\)](#)

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**Abstract:**

The Pakistan Atomic Energy Commission (PAEC) has started reprocessing operations at New Labs in Rawalpindi, which is located next to the Pakistan Institute of Nuclear Science and Technology (Pinstech). New Labs separates the plutonium from spent fuel from the PAEC's unsafeguarded Khushab reactor. This could enable Pakistan to build plutonium-based nuclear weapons. The weapons that Pakistan tested in May 1998 were all uranium-based.

According to unnamed senior US government officials, the Khushab reactor and the reprocessing plant are capable of producing 8-10kg of unsafeguarded weapons-grade plutonium per year. Access to plutonium could allow Pakistan to design more compact nuclear warheads for ballistic missiles.

According to US officials, the Pakistani government is under pressure from its scientists to test a plutonium weapon. However, one unnamed analyst said that PAEC had taken the steps to conduct another nuclear weapons test, in case India was to carry out another test of its thermonuclear weapon.

**Doc. Code:** 20250

**Bibliography:** Mark Hibbs and Shahid-ur-Rehman, *Nucleonics Week*, 16 March 2000

**Headline:** PAEC Made Khushab D2O in Facility Smuggled in as Petrochemical Plant

**Orig. Source:**

**Abstract:**

According to unnamed US, European, and Pakistani officials, Pakistan was able to purchase components to build a heavy water (Deuterium Oxide or D2O) production plant based on hydrogen sulfide (H2S) exchange technology during the 1980s and 1990s. The D2O was then used to start up Pakistan's unsafeguarded plutonium production reactor at Khushab.

According to S.A. Butt, the Pakistan Atomic Energy Commission's (PAEC) chief procurement officer in Europe from 1973 to the mid-1990s, Pakistan obtained most of the equipment for the plant from European companies. Butt was a protege of Munir Ahmad Khan, who was then the PAEC's chief proponent of the plutonium route to nuclear weapons.

An Arab businessman who owned oil and gas fields in the Middle East ordered the equipment for an off-gas purification plant according to the specifications of N.A. Javed. The equipment was then loaded onto a ship chartered by the Pakistan Navy in Holland and shipped to Karachi. From Karachi, the equipment was then transported overland to Khushab.

The 50MW(t) Khushab reactor started operating in April 1998. Western officials have estimated that the Khushab reactor requires about 20-50 tonnes of heavy water to operate.

**Doc. Code:** 17887

**Bibliography:** *Dawn*, 15 June 1998

**Headline:** Pakistan Not To Transfer Nuclear Technology

**Orig. Source:**

**Abstract:**

Pakistani Prime Minister Nawaz Sharif said on 14 June 1998 that Pakistan did not intend to proliferate its nuclear technology. Sharif said, "Pakistan is a very responsible nation. It has never passed on the technology. If we had to do it, we would have done it 10 years ago."

**Doc. Code:** 17868

**Bibliography:** *New York Times*, 28 May 1998

**Headline:** Pakistan Conducts Five Nuclear Tests

**Orig. Source:**

**Abstract:**

Pakistani Prime Minister Nawaz Sharif reported on 28 May 1998 that Pakistan conducted five nuclear tests and had "settled the score with India." Sharif also reported that Pakistan would weaponize its intermediate-range ballistic missile Ghauri with nuclear warheads.

In addition, Sharif criticized the international community's response to India's nuclear tests and said, "Pakistan was left with no choice but to detonate its own nuclear devices." Finally, while Pakistanis cheered in the streets of Islamabad, India's parliament erupted into shouting as opposition leaders blamed the government for starting a nuclear arms race.



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