

Pakistan Missile Chronology

Last update: June 2012

This annotated chronology is based on the data sources that follow each entry. Public sources often provide conflicting information on classified military programs. In some cases we are unable to resolve these discrepancies, in others we have deliberately refrained from doing so to highlight the potential influence of false or misleading information as it appeared over time. In many cases, we are unable to independently verify claims. Hence in reviewing this chronology, readers should take into account the credibility of the sources employed here.

Inclusion in this chronology does not necessarily indicate that a particular development is of direct or indirect proliferation significance. Some entries provide international or domestic context for technological development and national policymaking. Moreover, some entries may refer to developments with positive consequences for nonproliferation.

2012-2008

5 June 2012

Pakistan successfully tests the Hatf-VII (Babur) cruise missile. The Hatf-VII has a range of 700km and can carry both conventional and nuclear payloads. The missile was first tested in 2005.

- "Pakistan Successfully Test Fires Hatf-VII Cruise Missile," *DAWN* (Pakistan), 5 June 2012, <http://dawn.com>.

"Pakistan Says It Tested Nuclear-Capable Missile," *New York Times*, 5 June 2012, www.nytimes.com.

31 May 2012

Pakistan successfully tests a nuclear-capable, air-launched cruise missile, the Hatf-VIII (Ra'ad). With a range of 350km, the Hatf-VIII employs "low altitude, terrain-hugging" stealth technology. The development of Pakistan's nuclear-capable cruise missile program is viewed by many analysts as an attempt to undermine India's nascent ballistic missile defense systems.

- "Pakistan Test-fires Nuclear-capable Cruise Missile," *DAWN* (Pakistan), 31 May 2012, <http://dawn.com>. "Pak Tests Nuclear-capable Hatf-VIII Cruise Missile," *Times of India*, 31 May 2012, <http://articles.timesofindia.indiatimes.com>; "Pakistan PM, President Congratulate Scientists for Successful Missile Launch," *BBC Monitoring South Asia*, 29 April 2011, www.lexisnexis.com.

29 May 2012

Pakistan tests a nuclear-capable, short-range ballistic missile, the Hatf-IX (Nasr). With a range of 60km, the missile can be used in battlefield operations against enemy troop formations. Pakistan's pursuit of short-range ballistic missile technology is characterized as "consolidat[ing] Pakistan's deterrence capability at all levels of the threat spectrum."

- "Press Release No PR130/2012-ISPR," Inter-Services Public Relations (Pakistan), 29 May 2012, www.ispr.gov.pk;

"Details of Missile Tested by Pakistan on 29 May 12," *BBC Monitoring South Asia*, 29 May 2012, www.lexisnexis.com.

10 May 2012

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Pakistan successfully tests the Hatf-III (Ghaznavi) short-range ballistic missile (SRBM). The missile can carry both conventional and nuclear warheads, and has a range of 290km. The test is carried out during a training exercise by the Strategic Missile Group of the Army Strategic Forces Command.

- "Press Release No PR115/2012-ISPR," Inter Services Public Relations (Pakistan), 10 May 2012, www.ispr.gov.pk;
"Pak Tests Nuclear-capable Hatf-III Ballistic Missile," *Indian Express*, 10 May 2012, www.indianexpress.com.

25 April 2012

Pakistan successfully test-fires the Hatf-IV (Shaheen-1A) intermediate-range ballistic missile. An upgraded version of the Shaheen-1, the nuclear-capable Shaheen-1A is Pakistan's most powerful missile with an estimated range of 2500-3000km, bringing all of India within reach. The missile test takes place five days after India tests its long-range Agni-V missile.

- "Pakistan Successfully Test Fires Hatf-IV Ballistic Missile," *DAWN* (Pakistan), 25 April 2012, <http://dawn.com>; Jay Menon, "Pakistan Tests Missile Shortly After Rival India," *Aerospace Daily & Defense Report*, 26 April 2012, www.lexisnexis.com.

5 March 2012

Pakistan successfully tests the Hatf-II (Abdali) short-range ballistic missile. The Hatf-II can carry conventional and nuclear payloads, and has a range of 180km. Pakistan asserts the test is part of a "process of validation of land based ballistic missile systems."

- "No PR34/2012-ISPR," Press Release, Inter Services Public Relations, 5 March 2012, www.ispr.gov.pk; "Pak Test-fires Nuclear Capable Hatf-II Ballistic Missile," *Indian Express*, 5 March 2012, www.indianexpress.com.

28 October 2011

Pakistan successfully tests the Hatf-VII (Babur) cruise missile. The indigenously-built cruise missile has a range of 700 km, and is capable of carrying both conventional and nuclear warheads. The missile is fired from a launcher with three missile tubes, which "provides a major force multiplier effect for target employment and survivability."

- "Pak Tests Nuclear-capable Hatf-7 Cruise Missile," *Times of India*, 28 October 2011,

<http://timesofindia.indiatimes.com>; "Press Release No PR256/2011-ISPR," Inter Services Public Relations, 28 October 2011, www.ispr.gov.pk.

29 April 2011

Pakistan successfully tests the Ra'ad (Hatf-VIII) nuclear-capable air-launched cruise missile. The missile has a range of 350 km.

—"Pakistan successfully conducts flight test of Hatf-8 missile," *The Express Tribune*, 30 April 2011, <http://tribune.com.pk>.

20 April 2011

Pakistan successfully tests a new short-range nuclear-capable ballistic missile called Nasr (Hatf-IX). The missile has a range of 37 miles. According to analysts, the missile is meant to act as a deterrent against an Indian conventional military attack, especially through its Cold Start military doctrine.

—"Pakistan Launches Nuke-Ready Missile in Trial," *Global Security Newswire*, 19 April 2011; Anita Joshua, "Pakistan Tests Short-Range Ballistic Missile," *The Hindu*, 20 April 2011, www.hinduonnet.com.

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12 March 2011

Pakistan successfully tests the surface-to-surface nuclear-capable ballistic missile Abdali (Hatf-II). The missile has a range of 180 km.

—"Pakistan test-fires ballistic missile," *The Daily Times*, 12 March 2011, www.dailytimes.com.pk.

3 March 2011

Pakistan and China sign an agreement for joint construction of two fast-attack boats equipped with missiles for eventual induction into the Pakistan Navy.

—"Pakistan and China to manufacture missile boats," *Dawn*, 3 March 2011, www.dawn.com.

17 February 2011

Pakistan successfully tests the Babur (Hatf-VII) nuclear-capable cruise missile. The missile has a range of 470 miles.

—"Pakistan test fires Babur cruise missile," 17 February, 2011, www.upi.com.

21 December 2010

The Strategic Missile Group of the Army Strategic Forces Command successfully tests the Ghauri (Hatf-V) nuclear-capable ballistic missile. The missile has a range of 800 miles. Prime Minister Yousuf Gilani, who witnesses the test, says, "The test amply demonstrates the credibility of our minimum deterrence strategy, which is the cornerstone of our security policy and ensures peace in the region."

—"Pakistan Launches Nuke-Ready Missile," Global Security Newswire, 21 December, 2010; "Pakistan carries out training launch of ballistic missile," *Dawn*, 22 December, 2010, www.dawn.com.

6 December 2010

Pakistan successfully tests an unspecified anti-tank missile at the Tilla firing range. The missile is said to be indigenously made.

—"Pak Army successfully conducts anti-tank missile test," *The Daily Times*, 6 December, 2010, www.dailytimes.com.pk.

9 May 2010

Pakistan has successfully tested two nuclear-capable ballistic missiles - the 290 km-range Ghaznavi (Hatf III) and the 650 km-range Shaheen I (Hatf IV).

—Anita Joshua, "Pakistan Tests Nuclear-Capable Ballistic Missile," *The Hindu*, May 9, 2010, www.thehindu.com.

17 March 2010

The Pakistan Navy has carried out a series of tests of various missiles including the C-802 anti-ship missile, Exocet 39, and the Harpoon.

—"Pakistan Displays Naval Offensive Capabilities," *Jane's Defence Weekly*, March 17, 2010, Lexis-Nexis.

16 March 2010

The Pakistan Navy has tested an unnamed surface-to-air missile. The test was carried out from a guided missile destroyer.

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—"Pakistan Navy Test-Fires Surface-to-Air Missile," Associated Press of Pakistan, March 16, 2010, BBC Monitoring South Asia - Political, Lexis-Nexis.

27 February 2010

According to a Pakistani news report, in recent days Islamabad has tested several missile systems. Although these tests have not been publicized, as per their agreement, the Indian government was notified prior to the tests. According to the report, one the missiles being tested is the Hatf VII (Babur) cruise missile.

—"Pakistan Reportedly Conducts Unannounced Missile Tests," Nawa-i-Waqt, February 27, 2010, BBC Monitoring South Asia - Political, Lexis-Nexis.

10 September 2009

In a television interview, disgraced former Pakistani nuclear scientist, Dr. A.Q. Khan revealed that Islamabad had bought 200 missiles from North Korea in 1999. He said that Islamabad needed surface-to-air missiles at that time. The then Pakistan army chief, Gen. Pervez Musharraf sent him and a senior air officer to purchase the missiles.

—"Pakistan Allegedly Bought 200 Missiles from North Korea in 1999," Choson Ilbo (South Korean newspaper), September 10, 2009, BBC Monitoring Asia-Pacific — Political, Lexis-Nexis.

30 August 2009

The Pakistan government has refuted reports that it illegally modified United States-supplied Harpoon missiles to allow them to attack land targets.

—"No Modification Made to Harpoon Missile: Pakistan," *The Times of India*, August 30, 2009, timesofindia.indiatimes.com.

30 August 2009

The United States has charged Pakistan with modifying the Harpoon anti-ship missile for a land-attack role, in violation of the Arms Control Act. Islamabad has denied these allegations. The missile was reportedly tested unannounced on April 23, 2009.

—Eric Schmitt and David E. Sanger, "U.S. Accuses Pakistan of Altering Missiles," *The New York Times*, August 30, 2009, www.nytimes.com.

28 December 2008

In the wake of recent Pakistan-India rift, the Pakistan Air Force shifts six jet fighters equipped with most up-to-date cruise missiles to Karachi Airport. The PAF is also surveying with full care what types of Indian planes are in operation and in which sector.

—"Missile-fitted planes shifted to Karachi", *The Nation*, 28 December 2008; in Lexis-Nexis Academic Universe, 28 December 2008, lexis-nexis.com.

8 December 2008

Pakistan is emerging as the launch export customer for Brazil's MAR-1 anti-radiation missile (ARM). It remains undetermined on which aircraft the missile will be integrated. Brazilian press reports quote Defense Minister Nelson Jobim as confirming that agreement had provisionally been reached in April for a deal worth \$108 million. The sale of 100 missiles appears to have been approved by the Brazilian government at the start of December.

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— "Pakistan acquires Brazilian ARM", Aerospace Daily & Defense Report, 8 December 2008; in Lexis-Nexis Academic Universe, 8 December 2008, lexis-nexis.com.

8 May 2008

Pakistan conducts a successful flight test of the indigenously developed air-launched cruise missile, Hatf-8, known as Ra'ad. The Ra'ad cruise missile, with a range of 350 km, has special stealth capability. It is a low-altitude, terrain-following missile with high maneuverability and can deliver all types of warheads with great accuracy. The missile test is part of a continuing process of validating the design parameters of the weapon system.

— "More on Pakistan test-firing cruise missile", BBC Monitoring South Asia, Dawn News TV, 8 May 2008; in Lexis-Nexis Academic Universe, 8 May 2008, lexis-nexis.com.

22 April 2008

Pakistan's army test fires a long-range ballistic missile capable of carrying a nuclear weapon. The launch marks the culmination of a field training exercise for the Hatf VI (Shaheen II) missile program, which included a test firing on 19 April 2008.

— "Pakistan test-fires second missile in 3 days", The International Herald Tribune, 22 April 2008; in Lexis-Nexis Academic Universe, 22 April 2008, lexis-nexis.com.

19 April 2008

Pakistan successfully test fires its long range surface-to-surface ballistic missile Hatf VI (Shaheen II). This missile test is part of a process of validation and technical improvements to consolidate and verify various land based strategic missile systems. Hatf VI (Shaheen II) is a two stage fuel missile, which can carry nuclear and conventional warheads with high accuracy. It is Pakistan's longest range ballistic missile system with the range of 2000km.

— "Pakistan successfully test fires surface-to-surface ballistic missile", BBC Monitoring South Asia, 19 April 2008; in Lexis-Nexis Academic Universe, 19 April 2008, lexis-nexis.com.

13 February 2008

A Strategic Missile Group of Pakistan Army's Strategic Force Command conducts successful training launch of Ghaznavi (Hatf-III) short-range ballistic missile with a range of 290 km.

— "Pakistan PM, army chief witness 290-km range ballistic missile launch", BBC Monitoring South Asia, 13 February 2008; in Lexis-Nexis Academic Universe, 13 February 2008, lexis-nexis.com.

1 February 2008

Pakistan Army's Strategic Force Command conducts successful training launch of its Ghauri (Hatf V) intermediate-range ballistic missile. Ghauri has range of about 1,300 km and is based on North Korean No Dong missile technology. Launch appears intended to deflect criticism of President Pervez Musharraf's policy toward external threats, including India.

— "Pakistan test-fires 1,300km range Ghauri missile,"BBC Monitoring South Asia, 1 February 2008; Jane's Defence Weekly, 13 February 2008; in Lexis-Nexis Academic Universe, 13 February 2008, lexis-nexis.com.

30 January 2008

Pakistan Aeronautical Complex begins production of JF-17 Thunder combat aircraft developed under joint Sino-

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Pakistani venture for lightweight, multirole combat aircraft. JF-17 is powered by single Klimov RD-93 engine and should have initial operating capability by end of 2008. Some JF-17s may operate with Chinese radar and missiles and others with Thales radar and MBDA MICA air-to-air missiles.

— "Pakistan starts JF-17 production," *Ane's Defence Weekly*, 30 January 2008; in Lexis-Nexis Academic Universe, 30 January 2008, lexis-nexis.com.

25 January 2008

Pakistan conducts a successful test launch of a medium-range nuclear-capable ballistic missile. The high-precision Shaheen-1 missile has a range of up to 700 kilometers. It is a railroad platform-based mobile variant of the Pakistani Hatf-IV ballistic missile. According to Pakistan's Chief of Army Staff Gen. Ashfaq Parvez Kayani, "Pakistan's nuclear capability is solely for the purpose of deterring all types of aggression."

— "Pakistan test fires medium-range ballistic missile-2," *RIA Novosti*, 25 January 2008; in Lexis-Nexis Academic Universe, 25 January 2008, lexis-nexis.com.

23 January 2008

President General Pervez Musharraf rules out yielding to any international pressure to stop further improving Pakistan's nuclear capability. Pakistan is the only nuclear power among the Muslim countries and, according to Pres. Musharraf, its atomic missile programme is much better than the same programme of many countries.

— "Musharraf vows to continue Pakistan's nuclear programme", *BBC Monitoring South Asia*, 23 January 2008; in Lexis-Nexis Academic Universe, 23 January 2008, lexis-nexis.com.

2007-2005

11 December 2007

Pakistan successfully conducts a test launch of a cruise missile capable of carrying nuclear warheads. According to national media, the domestically-designed Babur (Hatf VII) missile has a reported range of 700 km and features an improved stealth capability and high accuracy. The launch, under a program set up in 2005, is the third successful test of the Babur missile since the beginning of this year. Babur, along with the Ra'ad (Hatf VIII) air-launched cruise missile, is expected to become the cornerstone of Pakistan's missile arsenal.

— "Pakistan test fires nuclear-capable cruise missile", *RIA Novosti*, 11 December 2007; in Lexis-Nexis Academic Universe, 11 December 2007, lexis-nexis.com.

4 September 2007

Pakistan tested a new nuclear-capable cruise missile late last month, demonstrating "a great strategic standoff capability of land and sea," the Pakistani army announced (see *GSN*, July 26). The air-launched Hatf 8 missile, also called the Ra'ad, has a range of 220 miles and can carry all warhead types, including nuclear payloads, according to the army.

— "Pakistan Tests Nuclear Cruise Missile" *Global Security Newswire*, www.nti.org.

26 July 2007

A nuclear-capable Pakistani cruise missile test-launched today could reach the capital of India, the Associated Press

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reported (see GSN, May 10). The test was the second this year of the Babur missile, which has a range of 435 miles.

— "Pakistan Launches Nuclear-Ready Cruise Missile" Global Security Newswire, www.nti.org.

10 May 2007

Satellite images have shown that Pakistan is building mobile launchers for its latest nuclear-capable ballistic missile, although the missile itself is not yet operational, the Federation of American Scientists said yesterday (see GSN, Feb. 23). While recently researching Pakistan's nuclear arsenal, experts examined a nearly 2-year-old satellite image which appears to show the construction of 15 mobile launchers for the Shaheen 2 ballistic missile.

— "Pakistan Builds Mobile Launchers for Newest Missile" Global Security Newswire, www.nti.org.

31 March 2007

A formal agreement between India and Pakistan about prior notification of missile tests has been held up due to differences over sharing sensitive information, Foreign Minister Khurshid M Kasuri said. "They wanted more information than we are prepared to give," Kasuri told Japan's Kyodo news agency in an interview published today. He claimed that at the last meeting of experts from the two countries here late last year, Pakistan proposed that the agreement should cover cruise missiles, but India did not agree.

— "Indo-Pak missile test pact held up due to differences: Kasuri" Outlook India, www.outlookindia.com.

February - March 2007

On 23 February 2007, Pakistan tested its intermediate-range ballistic missile, the Hatf VI/Shahen II, which has a range of 2,000 kilometers (km). According to a spokesman for the Pakistani military, the missile can carry "nuclear and conventional warheads with great accuracy," and was previously tested in April 2006. It is unclear whether upgrades to the system, which can reach major cities in western and central India, were introduced between the two launches. Several weeks later, on March 3, 2007, Islamabad successfully carried out a test of the Hatf-II/Abdali short-range missile, able to reach targets up to 200 km away. According to a Defense Ministry statement in Islamabad, the test's objective was to validate "desired technical parameters which [have] been successfully achieved." For more information, see Sharad Joshi's "Pakistan's Missile Tests Highlight Growing South Asia Nuclear Arms Race, Despite New Confidence Building Measures."

— "Pakistan Successfully Test Fires Shaheen II Missile," Dawn, 23 February 2007, www.dawn.com; Munir Ahmad, "Pakistan Test-Fires Long-Range Missile," Boston Globe, 23 February 2007, www.boston.com; Pakistan Tests Hatf-II Missile," Hindu, 4 March 2007, www.hindu.com; "Pakistan Test Fires Short Range Missile," Reuters India, 3 March 2007, in.today.reuters.com.

10 December 2006

Pakistan's military yesterday successfully test-fired a nuclear-capable Hatf III Ghaznavi missile with a range of 180 miles. It was the third test launch of a ballistic missile in as many weeks, the military said in a statement.

— "Pakistan FIRES 'NUKE' MISSILE" New York Post, www.nypost.com.

November - December 2006

In November and December 2006, Islamabad tested three nuclear capable ballistic missiles in quick succession, as part of exercises conducted by the Army Strategic Forces Command (ASFC). The first of the three tests, on 16

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November 2006, was that of the Hatf V/Ghauri I missile, which has a range of 1,300 km. The second test, on 29 November 2006, was of the 700-km-range Hatf IV/Shahen I missile. Then on 9 December, Pakistan test-fired the 290-km-range Hatf III/Ghaznavi missile, which can strike several cities in northern and western India.

— "Islamabad Test-Fires Ghauri Missile," Press Trust of India, 16 November 2006, Lexis-Nexis; "Pakistan Test-Fires Medium-Range Ballistic Missile Hatf-4," Press Trust of India, November 29, 2006, Lexis-Nexis; "Pakistan Test-Fires Nuclear Capable Ballistic Missile," Press Trust of India, December 9, 2006, Lexis-Nexis.

16 November 2006

Pakistan test fired a nuclear-capable ballistic missile, a day after concluding peace talks with India where the South Asian rivals agreed to fresh atomic safety measures. The medium-range Hatf V, or Ghauri missile, which can strike targets 1,300 kilometers away, was fired from an undisclosed location and the test was successful, the Pakistani military said.

— "Pakistan fires nuclear-capable missile" Forbes, www.forbes.com.

3 October 2006

Pakistan and India on Monday signed an agreement on pre-notification of flight-testing of ballistic missiles and a memorandum of understanding for the establishment of a communication link between the Pakistan Maritime Security Agency and the Indian Coast Guards. The accord and memorandum were signed after the 90-minute delegation-level talks between Foreign Minister Khurshid Kasuri and his Indian counterpart Natwar Singh at the Foreign Office here in the afternoon.

— "Pakistan, India sign two deals: Missile testing, coastal information" Dawn By Qudssia Akhlaque www.dawn.com.

1 June 2006

The Bush administration says that it has agreed to sell Pakistan advanced missiles designed to be launched from ships and submarines. It says that it has also agreed to sell \$375m worth of related equipment. In a notice to Congress, which has to agree the proposal, the Pentagon said the sale would significantly upgrade Pakistan's existing weapons systems.

— "US 'agrees' Pakistan missile sale" BBC, news.bbc.co.uk.

21 March 2006

Pakistan successfully test-fired on Tuesday a locally developed cruise missile that has the ability to carry a nuclear warhead and hit targets within a 500-kilometer range, the army said in a statement.

— "Missile test successful, Pakistan says" International Herald Tribune, www.iht.com.

20 February 2006

Pakistan yesterday tested a short-range, nuclear-capable missile, renewing international concerns over the country's nuclear weapons programme. The Pakistani military said in a statement that the "Abdali" surface-to-surface missile had a reach of 200km and could carry nuclear and other types of warheads.

— "Pakistan tests N-capable missile" Financial Times, www.ft.com.

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3 October 2005

Pakistan and India signed agreements today for giving advance notice of ballistic missile tests, and on setting up a hotline between their coast guard agencies, officials said. 'The agreement entails that both countries provide each other advance notification of flight tests that it intends to undertake of any surface-to-surface ballistic missile,' said a statement referring to the missile agreement.

— "Pakistan, India sign agreement to give advance notice of missile tests" AFX News Limited, www.forbes.com.

12 August 2005

Pakistan tested a ground-launched cruise missile Thursday for the first time, officials said, just days after it reached an agreement with India over missile tests.

— "Pakistan tests missile despite pact with India" The International Herald Tribune Salman Masood, www.iht.com.

31 March 2005

Pakistan successfully test-fired a short-range surface-to-surface ballistic missile Hatf-II/Abdali, says a press release of Inter Services Public Relations issued here on Thursday. The missile is capable of reaching targets up to 180 kilometres and can carry all types of warheads. All desired technical parameters were validated. As part of the usual confidence-building measures, prior notification of the test had been given to all concerned.

— "Ballistic missile test-fired" Dawn, www.dawn.com.

19 March 2005

Pakistan successfully test-fired its longest-range, nuclear-capable missile Saturday. The test comes two days after Secretary of State Condoleezza Rice visited Pakistan to encourage its peace process with neighboring India. There was no immediate reaction from New Delhi.

— "Pakistan test fires longest-range missile" USA Today, www.usatoday.com.

2004

8 December 2004

"Pakistan today carried out a successful test fire of its indigenously developed, medium-range surface-to-surface ballistic missile, Hatf-IV Shaheen-I," a statement issued by the Pakistan armed forces said. The Shaheen has a range of about 700 kilometers (435 miles). The latest test comes nine days after Pakistan test-fired a Ghaznavi missile, a short-range nuclear-capable missile.

— "Pakistan test-fires second missile" CNN International, <http://edition.cnn.com>.

12 October 2004

Pakistan successfully fired a medium-range, nuclear-capable test missile that could strike most cities in India, officials said on Tuesday. The Ghauri V missile has a range of about 1,500 kilometers, reported the Associated Press.

— "Pakistan missile test a success: military" CBC News, www.cbc.ca.

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15 October 2004

Japan expresses its deep regret over Pakistan missile test and urges Pakistan to join the international community in promoting the non-proliferation of weapons of mass destruction and ballistic missiles.

— "Japan Reiterates "Deep Regret" Over Pakistan's Missile Test," BBC Monitoring International Reports, 15 October 2004; in Lexis-Nexis Academic Universe, 15 October 2004, web.lexis-nexis.com.

12 October 2004

Pakistan test-fires its Ghauri (Hatf V) missile which has an estimated range of 1,500 kilometers. A military statement issued after the test states that the test was conducted as part of a series of tests planned for the Ghauri missile. According to the statement, the missile incorporated highly refined guidance and control system and superior technology to enhance its accuracy. The statement further adds that the test validated all design parameters. Prime Minister Shaukat Aziz and Chairman of the Joint Chiefs of Staff Committee General Ehsanul Haq witness the test. Pakistan provided advance notification of the test to all neighboring countries.

— "Pakistan Test-fires N-Capable Hatf V," The Pakistan Newswire, 12 October 2004, Nationwide International News; in Lexis-Nexis Academic Universe, 14 October 2004, web.lexis-nexis.com.

4 October 2004

Pakistan dismisses the doubts raised by India's Defense Minister about the foreign origins of the Ghaznavi missile. Pakistan's Foreign Ministry spokesperson states that India's missile program is dependent on foreign technology and reminds that India's acquisition of technology for its missile program led to the creation of the Missile Technology Control Regime (MTCR).

— "Pakistan Rejects Indian Questioning of New Missile's Pedigree," Japan Economic Newswire, 4 October 2003, International News; in Lexis-Nexis Academic Universe, 4 October 2003, web.lexis-nexis.com; "Pakistan Rejects Doubts Cast by India on Origin of Its Missiles," Deutsche Presse Agentur, 4 October 2003, Politics; in Lexis-Nexis Academic Universe, 4 October 2003, web.lexis-nexis.com.

1 October 2004

Pakistan's President Pervez Musharraf reiterates that there are no restrictions on Pakistan over its missile tests and states that Pakistan will carry out missile tests based on technical requirements.

— "Pak to Test Fire Missiles to Meet Tech Requirement: Musharraf," Pakistan Press International Information Services Limited, 1 October 2004; in Lexis-Nexis Academic Universe, 4 October 2004, web.lexis-nexis.com.

16 September 2004

Pakistan's Secretary for Defense Production Air Marshal (Retd.) Zahid Anis says that Pakistan has developed a completely automated air defense system using its ballistic missile technology. He indicates that the new system will become operational soon. He adds that despite being dependent on foreign technology, Pakistan's Air Weapons Complex and other defense research organizations collaborated in developing this system.

— "Pakistan Develops Indigenous Complete Automated Air Defence System," Pakistan Press International Services Limited, 16 September 2004; in Lexis-Nexis Academic Universe, 18 September 2004, web.lexis-nexis.com.

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14 September 2004

Pakistan's National Assembly passes a bill designed to strengthen its export control system. The bill, titled Export Control on Goods, Technologies, Material and Equipment Related to Nuclear and Biological Weapons and their Delivery Systems Act, defines delivery systems as "missiles exclusively designed and adapted to deliver a nuclear or biological weapon." The bill imposes a fine up to Rupees 5 million and an imprisonment up to 14 years for violators. In addition, the bill also authorizes the enforcement authorities to confiscate the properties of the offenders. The rules are applicable to "every citizen of Pakistan or person in the service of Pakistan within and beyond Pakistan or any Pakistani visiting or working abroad, any foreign national while in the territories of Pakistan and any ground transport, ship or aircraft registered in Pakistan wherever it may be." The Pakistani government says that the bill is being enacted in conformance with UN Security Council resolution 1540 that calls on states to undertake measures to prevent the terrorist acquisition of weapons of mass destruction.

— "NA-(NA Passes Anti-Nuclear Proliferation Bill)," Pakistan Press International Information Services Limited, 14 September 2004; in Lexis-Nexis Academic Universe, 16 September 2004, web.lexis-nexis.com; "Text of Pakistan's Nuclear Export Control Bill Passed 18 Sep," BBC Monitoring International Reports, 18 September 2004; in Lexis-Nexis Academic Universe, 18 September 2004, web.lexis-nexis.com; "Pakistan Adopts Bill to Tighten Controls on Nuclear Exports," Agence France Presse, 14 September 2004; in Lexis-Nexis Academic Universe, 15 September 2004, web.lexis-nexis.com.

13 September 2004

The United States imposes sanctions on a Chinese company Xinshidai for engaging in missile technology proliferation activities. The company is also known as China Xinshidai Company, XSD, China New Era Group or New Era Group. The identity of the country that received the missile technology is not revealed. The sanctions prohibit any exports or business transactions with the companies in the United States and the US government.

— "Imposition of Nonproliferation Measures on an Entity in China, Including a Ban on U.S. Government Procurement," Federal Register, 20 September 2004, Vol. 69, No. 181; in Lexis-Nexis Academic Universe, 13 September 2004, web.lexis-nexis.com; Federal Register, 27 September 2004, Vol. 69, No. 186; in Lexis-Nexis Academic Universe, 13 September 2004, web.lexis-nexis.com.

5-6 September 2004

The Foreign Ministers of India and Pakistan conclude two days of discussions on the composite dialogue between the two sides and agree on a broad range of issues that include engaging in expert level talks to discuss the draft agreement on advance notification of missile tests.

— "Text of the Joint Statement Issued at the Conclusion of Indo-Pak Talks at Foreign Minister's Level," Pakistan Press International Information Services Limited, 8 September 2004; in Lexis-Nexis Academic Universe, 10 September 2004, web.lexis-nexis.com.

30 August 2004

Pakistan's Foreign Ministry spokesperson Masood Khan says that Pakistan does not favor an open-ended arms race in South Asia and suggests that both India and Pakistan can benefit by adopting a strategic restraint regime. Mr. Khan was commenting on India's test-firing of the 2,500 kilometer Agni II ballistic missile.

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— B. Muralidhar Reddy, "Pakistan Not For Arms Race in South Asia," *The Hindu*, 30 August 2004; in Lexis-Nexis Academic Universe, 30 August 2004, web.lexis-nexis.com.

30 August 2004

Pakistan decides to test-fire the Ghauri III ballistic missile in the second week of October 2004 and claims that it has completed preparations for the test.

— "Pakistan to Test-Fire Ghauri III Missile in October — Daily," *BBC Monitoring International Reports*, 30 August 2004; in Lexis-Nexis Academic Universe, 30 August 2004, web.lexis-nexis.com.

28 July 2004

Pakistan's Finance Minister Shaukat Aziz says that Pakistan will not rollback its nuclear and missile programs and stresses that the nuclear and missile programs guarantee Pakistan's safety and security. Mr. Khan made these remarks while campaigning for his election to parliament.

— "Pakistan Will Never Rollback Its Nuclear and Missile Programmes Shaukat Aziz," *Pakistan Press International Information Services Limited*, 29 July 2004; in Lexis-Nexis Academic Universe, 31 July 2004, web.lexis-nexis.com.

18 July 2004

Pakistan's former Prime Minister Benazir Bhutto, in an interview with the Japanese newspaper *Asahi Shimbun*, says that Pakistan obtained long-range missile technology from North Korea during her visit to Pyongyang. Ms. Bhutto denies bartering nuclear technology in exchange for the missile technology and says that Pakistan paid cash for the exchange. Ms. Bhutto also says that she did not approve the development of missiles based on the acquired North Korean technology.

— "Bhutto Says Pakistan Bought Missile Technology from N. Korea: Report," *Agence France Presse*, 18 July 2004, *International News*; in Lexis-Nexis Academic Universe, 18 July 2004, web.lexis-nexis.com.

4 July 2004

Pakistan's President Pervez Musharraf states that Pakistan did not transfer any nuclear or missile technology to any country before and promised that it will not do so in the future.

— "Pakistan President Denies Transfer of Nuclear, Missile Technology to Iran," *BBC Monitoring International Reports*, 4 July 2003; in Lexis-Nexis Academic Universe, 4 July 2003, web.lexis-nexis.com.

1 July 2004

Pakistan's President Pervez Musharraf criticizes persons accusing his government of rolling back Pakistan's nuclear program and promises a "great test" in the next 2-2 1/2 months. The President clarifies his remarks and states that the test will be a missile test. President Musharraf also says that scientists at the Pakistan Atomic Energy Commission (PAEC), the National Scientific Commission, and other organizations are working to improve the missile systems. President Musharraf also pledges to continue the production of nuclear capable missiles.

— "Pakistan to Conduct 'Great' Missile Test Within 2-2.5 Months," *Japan Economic Newswire*, 30 June 2004, *International News*; in Lexis-Nexis Academic Universe, 1 July 2004, web.lexis-nexis.com; "Pakistan Nuclear Test Report Denied," *Xinhua News Agency*, 1 July 2004, *World News, Political*; in Lexis-Nexis Academic Universe, 2 July

Related content is available on the website for the Nuclear Threat Initiative, www.nti.org.



2004, web.lexis-nexis.com; Mike Collett, "Pakistan to Keep Missile Program," The Toronto Star (Toronto), 2 July 2004, News, p. A10; in Lexis-Nexis Academic Universe, 2 July 2004, web.lexis-nexis.com.

28 June 2004

In the joint statement issued at the conclusion of the Foreign Secretary level talks between India and Pakistan, both sides agree to "conclude an agreement on pre-notification of flight-testing of missiles, and entrust experts to work towards finalizing the draft agreement."

— "Text of Joint Statement of Foreign Secretaries Level Talks," Pakistan Press International Information Services Limited, 28 June 2004; in Lexis-Nexis Academic Universe, 30 June 2004, web.lexis-nexis.com.

20 June 2004

Pakistan's Foreign Office spokesperson Masood Khan says that the talks on nuclear CBMs discussed the issue of limitations on the number of missiles and missile warheads in a general manner. Mr. Khan also says that Pakistan is studying the draft proposal submitted by India on the technical parameters for the pre-notification of missile launches.

— "India and Pakistan to Work Towards Strategic Stability," Pakistan Press International Information Services Limited, 20 June 2004; in Lexis-Nexis Academic Universe, 22 June 2004, web.lexis-nexis.com.

20 June 2004

In a joint statement issued after talks on nuclear confidence building measures (CBM), India and Pakistan agree to "work towards concluding an agreement with technical parameters on pre-notification of flight-testing of missiles, a draft of which was handed over by the Indian side.

— "Text of Pakistan-India Joint Statement on Nuclear Talks," BBC Monitoring International Reports, 20 June 2004; in Lexis-Nexis Academic Universe, 20 June 2004, web.lexis-nexis.com.

19 June 2004

During the talks on nuclear confidence building measures (CBMs) between India and Pakistan, India submits a draft agreement on the technical parameters for the pre-notification of advance testing of missiles. Both sides also discuss ways to "institutionalize" the pre-notification of ballistic missile tests as discussed under the Lahore Memorandum of Understanding (MOU) in 1999. Pakistan presents its proposal on a strategic restraint regime that calls for the prevention of a nuclear and missile race, an agreement on risk reduction centers, non-induction of air-based and sea-based missile systems, and a nuclear doctrine of minimum deterrence.

— "India and Pakistan to Work Towards Strategic Stability," Pakistan Press International Information Services Limited, 20 June 2004; in Lexis-Nexis Academic Universe, 22 June 2004, web.lexis-nexis.com; Amit Baruah, "Positive Signals As India, Pakistan Begin Talks on Nuclear CBMs," The Hindu (Chennai), 20 June 2004; in Lexis-Nexis Academic Universe, 20 June 2004, web.lexis-nexis.com.

15 June 2004

Pakistan's High Commissioner to the United Kingdom Dr. Maleeha Lodhi says that any attempt by India to develop and deploy a ballistic missile defense system will destabilize the region. She says that the supply of the Phalcon Early Warning System and the possible sale of the Arrow Anti-Ballistic Missile system will threaten the stability of

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mutual deterrence between India and Pakistan.

— "Sale of Phalcon Early Warning System to India by Israel Will Threaten Deterrence Between Pakistan and India: Maleeha," *The Pakistan Newswire*, 15 June 2004, *Nationwide International News*; in *Lexis-Nexis Academic Universe*, 16 June 2004, web.lexis-nexis.com.

4 June 2004

The US State Department Deputy spokesperson Adam Ereli declines to comment on Pakistan's missile test. The Japanese government expresses "deep regret" over the missile test and urges Pakistan to cooperate with the international community to promote the nonproliferation of ballistic missiles and weapons of mass destruction.

— "US Declines to Comment on Pakistan's Missile Test," *The Press Trust of India*, 5 June 2004, *Nationwide International News*; in *Lexis-Nexis Academic Universe*, 11 June 2004, web.lexis-nexis.com; "Japan Expresses "Deep Regret" Over Pakistan's Missile Testing," *BBC Monitoring International Reports*, 6 June 2004; in *Lexis-Nexis Academic Universe*, 6 June 2004, web.lexis-nexis.com.

4 June 2004

Pakistan test-fires another Ghauri (Hatf V) ballistic missile with a range of 1,500 kilometers. The missile is capable of carrying both nuclear and conventional warheads. Pakistan's President Pervez Musharraf witnesses the test and says that the test is intended to verify certain technical parameters of the missile and not to send any political signals. President Musharraf describes the nuclear and missile programs as the cornerstone of Pakistan's security and adds that the concerns about a possible rollback of Pakistan's nuclear and missile programs are not true. President Musharraf states that his government has advanced the nation's nuclear and missile capabilities. He also says that Pakistan is willing to discuss mutual reduction of nuclear assets with India. The President also congratulates the scientists and engineers of Khan Research Laboratories (KRL) and National Development Complex (NDC) for their cooperation in completing the test. Pakistan's defense spokesperson Major General Shaukat Sultan says that the second test was carried out to validate certain additional parameters. The spokesperson says that the missile flew for 900 kilometers and hit the target 100 percent. The Chairman of the Joint Chiefs of Staff Committee General Muhammad Aziz Khan and the Chief of Air Staff Air Chief Marshal Kaleem Saadat witness the test.

— "Pakistan Tests Ghauri V," *Defense & Foreign Affairs' Strategic Policy*, June 2004, p. 3; in *Lexis-Nexis Academic Universe*, 7 July 2004, web.lexis-nexis.com; "Musharraf Ready for Mutual Reduction of Nuclear Arsenal with India," *Agence France Presse*, 4 June 2004, *International News*; in *Lexis-Nexis Academic Universe*, 5 June 2004, web.lexis-nexis.com; "Pakistan Conducts Second Missile Test in a Week," *The Press Trust of India*, 4 June 2004, *Nationwide International News*; in *Lexis-Nexis Academic Universe*, 4 June 2004, web.lexis-nexis.com; "Pakistan President Hails Successful Missile Test," *BBC Monitoring International Reports*, 4 June 2004; in *Lexis-Nexis Academic Universe*, 4 June 2004, web.lexis-nexis.com.

31 May 2004

Pakistan's Foreign Office spokesperson Masood Khan says that the missile test conducted on May 29 is not intended to intimidate the new government that assumed office in New Delhi last week. Mr. Khan says that the Indian government should not be concerned about the timing of the test. Mr. Khan issued his comments after Indian Home Minister expressed concern over the recent test-firing of the Ghauri missile.

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— "No Cause for India to be Concerned Over Missile Test," The Press Trust of India, 31 May 2004, Nationwide International News; in Lexis-Nexis Academic Universe, 31 May 2004, web.lexis-nexis.com.

30 May 2004

India's Home Minister Shivraj Patil says that Pakistan's missile test is escalating the arms race in the region.

— "India Says Pakistan Missile Test "Escalating" Arms Race," BBC Worldwide Monitoring, 30 May 2004; in Lexis-Nexis Academic Universe, 30 May 2004, web.lexis-nexis.com.

29 May 2004

Pakistan test-fires a nuclear capable Ghauri (Hatf V) surface-to-surface ballistic missile. The missile hits a target at a distance of 900 kilometers and carries a payload of 800 kilograms. Military spokesperson Major General Shaukat Sultan says that the test was conducted to improve the technical parameters of the missile and says that the data from the test validated all design parameters. The Minister for Information and Broadcasting Sheikh Rashid Ahmed says that the missile hit the target accurately. The test is witnessed by Prime Minister Mir Zafarullah Khan Jamali and many others.

— Rana Jawad, "Pakistan Tests Nuclear-Capable Missile," Agence France Presse, 29 May 2004, Financial Pages; in Lexis-Nexis Academic Universe, 30 May 2004, web.lexis-nexis.com; "Pak Test Fires Medium Range 'Ghauri' Missile," The Press Trust of India, 29 May 2004, Nationwide International News; in Lexis-Nexis Academic Universe, 30 May 2004, web.lexis-nexis.com; "Pakistan Test-Fires Intermediate-Range Missile," Deutsche Presses Agentur, 29 May 2004, Politics; in Lexis-Nexis Academic Universe, 29 May 2004, web.lexis-nexis.com; "Test of Ghauri Affirms Unique Technical Achievements: Sheikh Rashid," Pakistan Press International Information Services Limited, 29 May 2004; in Lexis-Nexis Academic Universe, 1 June 2004, web.lexis-nexis.com.

28 May 2004

Pakistan decided to conduct two separate tests for the Ghauri III ballistic missile. The first test is scheduled for May 29 and the second test is slated for June 3. According to Pakistani sources, the National Defense Complex (NDC), a subsidiary of the National Engineering and Scientific Commission (NESCOM), cooperated with the Khan Research Laboratories in developing the missile. The NDC is believed to have played an important role in developing the missile's guidance system.

— "Daily Says Pakistan to Test-Fire Ghauri III on 29 May, 3 Jun," BBC Monitoring International Reports; in Lexis-Nexis Academic Universe, 28 May 2004, web.lexis-nexis.com.

26 May 2004

China fines two companies millions of yuan for violating missile-export regulations. The official Xinhua News Agency announces the violations without providing the names of the companies or details of their offenses. China issued new rules in January 2004 tightening its export control regulations with respect to missile, nuclear, or biological technologies. The announcement does not indicate whether the fines are imposed for violating the regulations announced in January.

— "Report: China Fines Two Companies for Missile Export Violations," ChinaOnline, 25 May 2004; in Lexis-Nexis Academic Universe, 27 May 2004, web.lexis-nexis.com.

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24 May 2004

Pakistan's High Commissioner to the United Kingdom Dr. Maleeha Lodhi, speaking at a forum says that Pakistan's proposal for a nuclear and missile restraint regime with India include: a moratorium on nuclear testing, non-deployment of nuclear capable ballistic missiles, maintaining nuclear weapons on a de-alerted status, and moratorium on acquisition and deployment of anti-ballistic missile system (ABM).

— "Maleeha Hopes New Indian Govt to Pursue Agreed Framework for Dialogue," Pakistan Press International Information Services Limited, 25 May 2004; in Lexis-Nexis Academic Universe, 27 May 2004, web.lexis-nexis.com.

23 May 2004

According to Pakistani sources the Ghauri III will be test-fired in the next 48 hours. Pakistan has completed all arrangements for the test and informed neighboring countries about the impending test. Sources also reveal that the missile cannot be intercepted by a missile defense system owing to its speed and guidance system. The missile is also termed as a "fire and forget" missile and it can be launched from fixed and mobile launchers.

— "Pakistan to Test-Fire Ghauri III Missile "Within 48 Hours"," BBC Monitoring International Reports, 23 May 2004; in Lexis-Nexis Academic Universe, 23 May 2004, web.lexis-nexis.com.

21 May 2004

Pakistani officials and news reports indicate that it is planning to flight-test the liquid-fueled Ghauri III missile which has a range of 3,500 kilometers. Two senior Pakistani officials say that Pakistani scientists and engineers are developing a new missile. Pakistani newspapers report that the test will be conducted on June 3 from a testing range near Nowshera in the North West Frontier Province. Pakistani sources suggest that technical, climactic, or political factors might force a change in the test date.

— Munir Ahmad, "Pakistan Plans to Test Fire Longest-Range Missile Next Month," Associated Press Worldstream, 21 May 2004, International Affairs; in Lexis-Nexis Academic Universe, 22 May 2004, web.lexis-nexis.com; "Pakistan Plans to Test-Fire Ballistic Missile on 3 June," BBC Monitoring International Reports, 21 May 2004; in Lexis-Nexis Academic Universe, 21 May 2004, web.lexis-nexis.com.

20 May 2004

Pakistan's Prime Minister Mir Zafarullah Khan Jamali visits Khan Research Laboratories and is informed about plans to test-fire the Ghauri III ballistic missile in the first week of June 2004.

— "Pakistan Plans to Test-Fire Ballistic Missile on 3 June," BBC Monitoring International Reports, 21 May 2004; in Lexis-Nexis Academic Universe, 21 May 2004, web.lexis-nexis.com.

14 May 2004

During a one-on-one meeting between American and North Korean diplomats held on the sidelines of the six-nations to discuss the nuclear situation on the Korean peninsula, a member of the North Korean delegation Pak Myong Kuk denies US allegations about transfer of uranium enrichment technology from Pakistan to North Korea and says that North Korea and Pakistan only exchanged missile technology.

— Audra Ang, "North Korea Denies Pakistan Provided Nuclear Technology: Diplomacy US, Allies Say Assistance Only Possible After Nuclear Program is Dismantled," The Vancouver Sun (British Columbia), 15 May 2004, News, p. A16; in Lexis-Nexis Academic Universe, 15 May 2004, web.lexis-nexis.com.

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13 May 2004

Dutch authorities bring formal charges against businessman Henk Slebos for repeatedly violating Dutch export control regulations since 1999 and supplying material for Pakistan's nuclear weapons, chemical weapons, and ballistic missile programs.

— Mark Hibbs, "Dutch Prosecutors to Charge Slebos with Violations Involving KRL," *Nucleonics Week*, 13 May 2004, Vol. 45, No. 20, p. 12; in Lexis-Nexis Academic Universe, 27 May 2004, web.lexis-nexis.com.

5 May 2004

Pakistan's cabinet approves a draft bill for strengthening export controls on "material, equipment and technologies related to nuclear, chemical or biological weapons and their delivery systems." The draft bill is expected to be enacted into law after receiving parliamentary approval.

— "Pakistan Tightens Controls on Nuclear Proliferation," *Agence France Presse*, 5 May 2004, *International News*; in Lexis-Nexis Academic Universe, 5 May 2004, web.lexis-nexis.com.

28 April 2004

In an address to the UN Security Council, Pakistan's Permanent Representative to the United Nations Ambassador Munir Akram says that "Pakistan will continue to develop its nuclear, missiles and related strategic capability to maintain the minimum deterrence vis-a-vis our eastern neighbour."

— "Explanation of Vote by Ambassador Munir Akram, Permanent Representative of Pakistan to the United Nations, on the Security Council Resolution on Non-Proliferation of Weapons of Mass Destruction — 28 April, 2004," www.un.int.

21 April 2004

Pakistan's President Pervez Musharraf says that the nuclear weapons and missile programs are irreversible and can only move in the forward direction.

— "Pakistan President Says Nuclear Programme To Stay," *BBC Monitoring International Reports*, 21 April 2004; in Lexis-Nexis Academic Universe, 22 April 2004, web.lexis-nexis.com.

13 April 2004

Pakistan's former Prime Minister Benazir Bhutto, in a written response to the United Press International, says that she sanctioned the purchase of missile technology from North Korea during her second term in 1994-6. She also says that her government did not provide funds to develop the technology in Pakistan in view of her policy of maintaining parity with India and not developing missiles with a range greater than those possessed by India.

— Anwar Iqbal, "Exclusive: Bhutto on Pakistan Nuclear History," *United Press International*, 13 April 2004; in Lexis-Nexis Academic Universe, 14 April 2004, web.lexis-nexis.com.

9 April 2004

Pakistan's Foreign Minister Khurshid Mehmood Kasuri says that Pakistan is willing to negotiate a nuclear and missile restraint regime and discuss measures to avoid an arms race in the region. Mr. Kasuri states that the resources saved by such measures can be used for economic development.

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— "Pak Hopes Positive Response From India Avoiding Arms Race: Kasuri," Pakistan Press International Information Services Limited, 9 April 2004; in Lexis-Nexis Academic Universe, 12 April 2004, web.lexis-nexis.com.

3 April 2004

Pakistan's Foreign Ministry spokesperson Masood Khan says that during the forthcoming talks between India and Pakistan, Pakistan wishes to discuss the creation of a strategic restraint regime as well as measures to avoid the accidental launch of nuclear missiles.

— "FO (Pakistan Will Have Serious Talks With India, FO)," Pakistan Press International Information Services Limited, 3 April 2004; in Lexis-Nexis Academic Universe, 5 April 2004, web.lexis-nexis.com.

15 March 2004

Pakistan's President Pervez Musharraf, addressing a group of tribal leaders in Peshawar, says that Pakistan will continue to test-fire more missiles in the next few months.

— "Pakistan to Conduct More Missile Tests: President," Agence France Presse, 15 March 2004, International News; in Lexis-Nexis Academic Universe, 15 March 2004, web.lexis-nexis.com.

11 March 2004

Officials from the Indian Ministry of External Affairs say that Pakistan's recent missile test has damaged the process of nuclear risk management between the two countries. A senior official from the Ministry of Defense says that India is increasing its efforts to acquire missile defense systems such as the US Patriot or the Israeli Arrow.

— Bulbul Singh, "Missile Test by Pakistan Snarls Talks with India," Aerospace Daily, 12 March 2004, Vol. 209, No. 47, News, p. 5; in Lexis-Nexis Academic Universe, 15 March 2004, web.lexis-nexis.com.

10 March 2004

Pakistan's Foreign Office spokesperson Masood Khan states that the recent missile test will not have an adverse impact on the ongoing composite dialogue between India and Pakistan. Mr. Khan also says that the missile test was conducted to validate technical parameters.

— "FO (Shaheen-II Test Not Risking Indo-Pak Talks: Masood Khan)," Pakistan Press International Information Services Limited, 10 March 2004; in Lexis-Nexis Academic Universe, 12 March 2004, web.lexis-nexis.com.

10 March 2004

Indian officials dismiss Pakistan's missile test as a "show" intended to satisfy the domestic audience. Indian officials say that the test is aimed to reassure the public about Pakistan's resolve in maintaining its nuclear and missile programs despite reports of US pressure on President Musharraf to rollback the programs. An Indian official states that Pakistan's solid-fueled missiles are based on Chinese technology and liquid-fueled missiles are based on North Korean technology.

— Rajat Pandit, "India not Worried by Shaheen Show," The Economic Times (Mumbai), 10 March 2004; in Lexis-Nexis Academic Universe, 10 March 2004, web.lexis-nexis.com.

10 March 2004

The Chairman of the National Defense Complex Dr. Samar Mubarakmand says that the government is providing continuous funding for developing new designs for nuclear bombs and missiles. Dr. Mubarakmand also rejects

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reports of sharing missile codes with the United States saying that Pakistan is capable of securing its missiles.

— "Pakistan Continues Developing Atomic Bombs — Scientist Claims," Deutsche Press Agentur, 10 March 2004, Politics; in Lexis-Nexis Academic Universe, 10 March 2004, web.lexis-nexis.com.

9 March 2004

Japan expresses concern over Pakistan's missile test and urges Pakistan to work with the international community in stopping the proliferation of weapons of mass destruction and ballistic missiles. The Chinese Foreign Ministry spokesperson avoids providing a direct comment on the missile test and stresses that any action taken by India and Pakistan must assist the peace talks between the 2 sides. US State Department spokesperson urges Pakistan and other countries in the region to exercise restraint in their nuclear weapons and missile programs.

— "Pakistan Test Fires New Missile," Deutsche Presse-Agentur, 9 March 2004, Politics; in Lexis-Nexis Academic Universe, 9 March 2004, web.lexis-nexis.com; "China Avoids Direct Comment on Pakistan Missile Test," BBC Monitoring International Reports, 9 March 2004; in Lexis-Nexis Academic Universe, 9 March 2004, web.lexis-nexis.com; "US Urges Pakistan to Exercise Restraint in Missile Programme," BBC Monitoring International Reports, 10 March 2004; in Lexis-Nexis Academic Universe, 10 March 2004, web.lexis-nexis.com.

9 March 2004

The Chairman of the National Engineering and Scientific Commission (NESCOM) Dr. Samar Mubarakmand states that the Shaheen II missile covered a distance of 1,800 kilometers in just 15 minutes. Dr. Mubarakmand says that several ships of the Pakistani Navy monitored the test and reported the destruction of the target. He also says that the missile weighed 26 tons and stressed that the missile was produced indigenously.

— "Pakistan Scientist Says Missile Test Reassures Nation Over Nuclear Programme," BBC Monitoring International Reports, 10 March 2004; in Lexis-Nexis Academic Universe, 10 March 2004, web.lexis-nexis.com.

9 March 2004

Pakistan test-fires the Shaheen II medium-range ballistic missile. The Shaheen II is a road-mobile two-stage solid fueled missile. The missile weighs 26 tons and has an estimated range of 2,500 kilometers and a payload capacity of 1,000 kilograms. The missile is fired from the Somiani coastal site and hit a target 2,000 kilometers in the Indian Ocean. A military statement, issued after the test, states that "all planned technical parameters were successfully validated during the test fire." The Vice Chief of Army Staff General Mohammed Yousaf Khan states that the test is of crucial importance since it was the first time that Pakistan had tested a two-stage missile. General Khan also says that the test involved a successful experiment involving the separation of the first and second stages of the missile.

— "Pakistan Test Fires New Missile," Deutsche Presse-Agentur, 9 March 2004, Politics; in Lexis-Nexis Academic Universe, 9 March 2004, web.lexis-nexis.com; "Pakistan Tests Nuclear Capable Missile," Agnce France Presse, 9 March 2004, International News; in Lexis-Nexis Academic Universe, 10 March 2004, web.lexis-nexis.com; "Pak Test Fires 2,000 km Range Shaheen-II Ballistic Missile," The Press Trust of India, 9 March 2004, Nationwide International News; in Lexis-Nexis Academic Universe, 9 March 2004, web.lexis-nexis.com; "Pakistan Test-Fires Nuclear-Capable Ballistic Missile," Japan Economic Newswire, 9 March 2004, International News; in Lexis-Nexis Academic Universe, 9 March 2004, web.lexis-nexis.com; "Pakistan Army Spokesman Describes Missile Test," BBC Monitoring International Reports, 9 March 2004; in Lexis-Nexis Academic Universe, 10 March 2004, web.lexis-nexis.com.

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9 March 2004

The Director of Central Intelligence George Tenet says that India and Pakistan are pursuing the development of ballistic missiles and inducting short-range ballistic missiles (SRBMs) into their respective missile units.

— "The Worldwide Threat 2004: Challenges in a Changing Global Context," Testimony of Director of Central Intelligence George J. Tenet, Senate Armed Services Committee, 9 March 2004, www.cia.gov.

8 March 2004

Pakistan's Foreign Ministry spokesperson announces that Pakistan might conduct a missile test soon and says that Pakistan has informed neighboring countries including India about the impending test. The advance notification provided to the neighboring countries states that the test is expected to be conducted between March 6 and March 9.

— "Pakistan Gets Ready to Test-Fire Long-Range Missile," Deutsche Presse-Agentur, 8 March 2004, Politics; in Lexis-Nexis Academic Universe, 8 March 2004, web.lexis-nexis.com; "Pak Test Fires 2,000 km Range Shaheen-II Ballistic Missile," The Press Trust of India, 9 March 2004, Nationwide International News; in Lexis-Nexis Academic Universe, 9 March 2004, web.lexis-nexis.com.

6 March 2004

Pakistani sources indicate that the Shaheen II ballistic missile may be test-fired within the next 48 hours. The National Engineering and Scientific Commission has reportedly completed preparations for the test.

— "Pakistan May Test-Fire Missile in 48 Hours — Sources," BBC Monitoring International Reports, 6 March 2004; in Lexis-Nexis Academic Universe, 6 March 2004, web.lexis-nexis.com.

3 March 2004

Pakistan's Foreign Ministry spokesperson Masood Khan says India and Pakistan can reach an agreement on a "strategic restraint regime" during the bilateral talks scheduled for May this year.

— "Pakistan Hopeful of Nuclear, Missile Restraint with India," Japan Economic Newswire, 3 March 2004, International News; in Lexis-Nexis Academic Universe, 3 March 2004, web.lexis-nexis.com.

28 February 2004

North Korea's Vice Foreign Minister Kim Kye-gwan admits that North Korea sold missiles to Pakistan in order to obtain foreign currency. He denies that North Korea obtained nuclear technology in exchange for transferring missiles.

— "North Korea Says Missiles Sold to Pakistan, Denies Nuclear Deal," BBC Monitoring International Reports, 28 February 2004; in Lexis-Nexis Academic Universe, 28 February 2004, web.lexis-nexis.com.

24 February 2004

In his testimony before the Senate Select Committee on Intelligence, the Director of the Defense Intelligence Agency (DIA) Vice Admiral Lowell E. Jacoby says that North Korea is selling missile and related production technologies to countries in the Middle East, North Africa, and Pakistan. He also states that Chinese companies "remain involved with nuclear and missile programs in Iran and Pakistan."

— "Current and Projected National Security Threats to the United States," Vice Admiral Lowell E. Jacoby, Director,

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Defense Intelligence Agency, Statement for the Record, Senate Select Committee on Intelligence, 24 February 2004. intelligence.senate.gov.

23 February 2004

Pakistan's Foreign Minister Khurshid M. Kasuri announces that Pakistan will flight-test the Shaheen II missile in the next few days. Mr. Kasuri does not provide information on the exact number of missiles that will be tested. But Pakistani sources suggest that three missiles with different payloads are likely to be tested.

— "Pakistan to Test-Fire Shaheen Missiles," Japan Economic Newswire, 23 February 2004, International News; in Lexis-Nexis Academic Universe, 23 February 2004, web.lexis-nexis.com.

21 February 2004

President Musharraf hands over the Hatf III (Ghaznavi) ballistic missile to the Army Strategic Forces Command. The Ghaznavi is a solid-fueled missile with a range of 290 kilometers. The missile was previously test-fired in 2002 and 2003.

— "President Says Pakistan Nuclear Programme 'Here to Stay'," BBC Monitoring International Reports, 21 February 2004; in Lexis-Nexis Academic Universe, 21 February 2004, web.lexis-nexis.com; B. Muralidhar Reddy, "We Will Never Roll Back N-Programme: Musharraf," The Hindu (Chennai), 22 February 2004; in Lexis-Nexis Academic Universe, 21 February 2004, web.lexis-nexis.com.

17 February 2004

In an interview with the Financial Times, President Musharraf says that Pakistan paid North Korea in cash for anything it obtained from that country. He also says that Pakistan obtained only conventional surface-to-surface missiles from North Korea during the period of increased tension with India in 2002.

— Farhan Bokhari, Stephen Fidler, and Edward Luce, "Pakistan Rejects Nuclear Inspection: President Musharraf Says He Has No Intention of Freezing Country's 'Self-Sufficient' Weapons Programme," Financial Times (London), 18 February 2004, Front Page, First Section, p. 1; in Lexis-Nexis Academic Universe, 17 February 2004, web.lexis-nexis.com; "Musharraf Says No to Nuclear Site Inspections," Pakistan Press International Information Services Limited, 18 February 2004; in Lexis-Nexis Academic Universe, 20 February 2004, web.lexis-nexis.com.

17 February 2004

Pakistan presents a proposal to India calling for the adoption of a "strategic restraint regime." According to a Pakistani Foreign Ministry official, the proposal calls on both sides to negotiate the threshold for minimum nuclear deterrence. Pakistan is hoping to place the issue on the agenda for the proposed peace talks between India and Pakistan.

— "Pakistan Proposes Nuclear and Conventional Pact with India," Pakistan Press International Information Services Limited, 17 February 2004; in Lexis-Nexis Academic Universe, 19 February 2004, web.lexis-nexis.com.

11 February 2004

Pakistan's former Prime Minister Benazir Bhutto says that Pakistan paid North Korea in cash for the transfer of missile technology. Benazir Bhutto denies that the transfer involved any missiles and states that Pakistan obtained only blueprints from North Korea.

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— "Bhutto Says Pak Paid N Korea for Missile Tech," *The Economic Times* (Mumbai), 11 February 2004; in Lexis-Nexis Academic Universe, 11 February 2004, web.lexis-nexis.com.

9 February 2004

Pakistan's Foreign Ministry spokesperson Masood Khan acknowledges that a Pakistani military C-130 cargo plane was used to transport missiles from North Korea in July 2002, but states that the plane transported only shoulder-fired anti-aircraft missiles.

— Burt Herman, "Pakistan Denies Sending Nuclear Technology to North Korea on Military Flight," *The Associated Press*, 9 February 2004, *International News*; in Lexis-Nexis Academic Universe, 10 February 2004, web.lexis-nexis.com.

5 February 2004

Pakistani sources indicate that the Shaheen II ballistic missile will be tested in the second week of March 2004. According to the sources, the missile has a range of 700-2,700 kilometers and can carry a 1,100 kilogram payload.

— "Pakistan to Test Fire Hatf IV Missile in March, Can Hit All Indian Cities," *BBC Monitoring International Reports*, 5 February 2004; in Lexis-Nexis Academic Universe, 5 February 2004, web.lexis-nexis.com.

5 February 2004

At a news conference for newspaper editors and columnists, President Musharraf says that Pakistan will test-fire the Shaheen II ballistic missile within a month. The Shaheen II has an estimated range 2,000 kilometers. President Musharraf also asserts that Pakistan will never rollback its nuclear weapons and missile capability. President Musharraf says that Pakistan's nuclear and missile capability has crossed the deterrence level decided by the government. He also adds that the development is in progress and has not been halted.

— "Pakistan to Test New Missile: Musharraf," *Agence France Presse*, 5 February 2004, *International News*; in Lexis-Nexis Academic Universe, 6 February 2004, web.lexis-nexis.com; "Pakistan President Holds Televised News Conference 5 February," *BBC Worldwide Monitoring*, 9 February 2004; in Lexis-Nexis Academic Universe, 10 February 2004, web.lexis-nexis.com.

4 February 2004

Pakistan's Nuclear Command Authority (NCA) meets and decides to flight-test the Shaheen II ballistic missile.

— "Pakistan to Test-Fire Shaheen Missiles," *Japan Economic Newswire*, 23 February 2004, *International News*; in Lexis-Nexis Academic Universe, 23 February 2004, web.lexis-nexis.com.

2 February 2004

A retired Pakistani Army Corps Commander says that the exchange of missiles for nuclear technology between North Korea and Pakistan had its origins during Prime Minister Benazir Bhutto's visit to North Korea in December 1993. According to the retired military commander, a few months after Prime Minister Bhutto's visit, A.Q. Khan led a delegation of scientists and military officials to North Korea. Later in December 1997 General Jehangir Karamat, who became the new Army Chief of Staff in January 1996, secretly visited North Korea. In April 1998, General Karamat presided over the test-firing of the Ghauri ballistic missile.

— John Lancaster and Kamran Khan, "Musharraf Named in Nuclear Probe; Senior Pakistani Army Officers were

Related content is available on the website for the Nuclear Threat Initiative, www.nti.org.



Aware of Technology Transfers, Scientist Says," Washington Post, 3 February 2004, A Section, A13; in Lexis-Nexis Academic Universe, 3 February 2004, web.lexis-nexis.com.

1 February 2004

A Pakistani official reveals that Pakistan spent about \$3.2 billion on its nuclear weapons and missile programs since the early 1970s. The official says that the country spent 2% of its national budget and 7.8% of its defense budget on developing nuclear weapons and missiles for the past 32 years. According to the official, the Khan Research Laboratory (KRL) and the Pakistan Atomic Energy Commission (PAEC) received the funds for the development of nuclear weapons and missiles. The official rejects allegations that Pakistan provided nuclear technology to North Korea in exchange for missile technology and says that Pakistan paid \$200 million for the missile technology that was used in the Ghauri ballistic missile.

— "Pakistan's Nuclear Weapons, Missile Program Cost \$3.2 Billion," Japan Economic Newswire, 2 February 2004, International News; in Lexis-Nexis Academic Universe, 2 February 2004, web.lexis-nexis.com.

22 January 2004

Pakistani defense sources indicate that Pakistan plans to conduct a series of missile tests between the end of March and April 2004. According to the sources, the Shaheen and Ghauri missiles will be tested in addition to some surface-to-air missiles. All the missiles are capable of carrying nuclear warheads. Pakistani scientists are busy conducting preparatory tests and the tests will be conducted in the coastal areas of Balochistan and Karachi.

— "Another Missile Experimentation Series in the Offing," Pakistan Press International Information Services Limited, 22 January 2004; in Lexis-Nexis Academic Universe, 24 January 2004, web.lexis-nexis.com.

17 January 2004

In an address to Parliament, Pakistan's President Pervez Musharraf declares that Pakistan will not only maintain its nuclear and missile capability but also strengthen it.

— "Text of Pakistan President's Address to Parliament," BBC Monitoring International Reports, 17 January 2004; in Lexis-Nexis Academic Universe, 17 January 2004, web.lexis-nexis.com.

16 January 2004

The spokesperson for the US State Department Adam Ereli states that the United States is willing to discuss missile defense issues with Pakistan and stresses that Pakistan must adopt strict export controls.

— "US Willing to Discuss Missile Defence with Pak too," The Pakistan Newswire, 16 January 2004, Nationwide International News; in Lexis-Nexis Academic Universe, 18 January 2004, web.lexis-nexis.com.

2003

24 December 2003

The United States imposes sanctions on a Macedonian company Mikrosam and one of its top executives, Professor Blagoja Samakoski, for engaging in missile proliferation activities. Earlier, in February 2003, Hungarian officials stopped a shipment of heavy-machinery from Mikrosam to Pakistan. Professor Samakoski had indicated that the equipment could be used in the nuclear industry.

Related content is available on the website for the Nuclear Threat Initiative, www.nti.org.



— "Macedonian Company Blacklisted by US for Weapons Proliferation," Deutsche Presse Agentur, 25 December 2003, Politics; in Lexis-Nexis Academic Universe, 25 December 2003, web.lexis-nexis.com; "Bureau of Nonproliferation; Imposition of Missile Proliferation Sanctions Against Macedonian Entities," Federal Register, 24 December 2003, Vol. 68, No. 247; in Lexis-Nexis Academic Universe, 24 December 2003, web.lexis-nexis.com.

17 December 2003

Pakistani sources indicate that scientists have developed a powerful engine for MK III Ghauri IV which is expected to be tested today. Special arrangements are believed to have been made at the testing site. The Ghauri IV is believed to be faster and possess a greater range than the three earlier versions of Ghauri. The Chairman of Kahuta Research Laboratories (KRL) Dr. Javed A. Mirza, Dr. Samar Mubarakmand, and several other Army officials are expected to witness the engine test.

— "Pakistan to Test Latest Engine for Ghauri IV Missile — Daily," BBC Monitoring International Reports, 17 December 2003; in Lexis-Nexis Academic Universe, 17 December 2003, web.lexis-nexis.com.

17 November 2003

Pakistan's Foreign Ministry Spokesperson Masood Khan denies any cooperation between Pakistan and China involving nuclear and missile technology. Mr. Khan says that China is not involved in any assistance that can be considered un-safeguarded. Mr. Khan's comments came after the CIA released its semi-annual study "Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions: 1 January Through 30 June 2003."

— "FO (Pakistan Denies Nuclear Cooperation with China)," Pakistan Press International Information Services Limited, 17 November 2003; in Lexis-Nexis Academic Universe, 19 November 2003, web.lexis-nexis.com.

7 November 2003

Addressing a press conference, Pakistan President Pervez Musharraf says that Pakistan acquired conventional short-range missiles and the technology from North Korea. He says that Pakistan currently produces those missiles in the same lab facility once directed by Dr. A.Q. Khan. President Musharraf also suggests that A.Q. Khan's visits to North Korea might be related to the manufacture of missiles at the facility directed by him.

— "Pakistan to Match India's Weapons Amassment: Musharraf," Pakistan Press International Information Services Limited, 7 November 2003; in Lexis-Nexis Academic Universe, 10 November 2003, web.lexis-nexis.com.

6 November 2003

Pakistan's President Pervez Musharraf denies that Pakistan had a defense cooperation program with North Korea during the past four years. He says that Pakistan had defense relations with North Korea in the past and acquired surface-to-air missiles. According to President Musharraf, Pakistan now produces those missiles indigenously.

— "Musharraf Denies Role in NK Nuke Program," Pakistan Press International Information Services Limited, 6 November 2003; in Lexis-Nexis Academic Universe, 8 November 2003, web.lexis-nexis.com.

30 October 2003

Pakistan's Foreign Secretary Riaz Khokkar says that Pakistan will not respond to India's testing of the Brahmos supersonic cruise missile. Meanwhile, the Director-General of the Inter-Services Public Relations Major General

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Shaukat Sultan says that Pakistan will develop a counter to the Brahmos missile and indicates that Pakistan will not allow any disruption of the balance of power.

— "Army Spokesman Says Pakistan to Make Missile to Counter India's Brahmos," BBC Monitoring International Reports, 31 October 2003; in Lexis-Nexis Academic Universe, 31 October 2003, web.lexis-nexis.com.

20 October 2003

The Chairman of the National Engineering and Scientific Commission (NESCOM) Dr. Samar Mubarakmand says that Pakistan's missile program is totally indigenous and peaceful in nature. Speaking at the inaugural session of a three-day Conference on Physics, Dr. Mubarakmand says that paucity of funds is the greatest challenge facing Pakistan. He stressed that scientists and scholars must be provided more competitive salaries and emphasized that a proper work environment be created for them.

— "Pakistani Scientist Says Missile Programme "Wholly Indigenous, Peaceful"," BBC Monitoring International Reports, 22 October 2003; in Lexis-Nexis Academic Universe, 22 October 2003, web.lexis-nexis.com.

14 October 2003

Pakistan test-fires the Shaheen-1 ballistic missile for the second time in a week. According to a press release from the Inter-Services Public Relations, the military conducted the test to validate certain additional parameters. The press release says the test data collected after the test validated all the design parameters. The Vice Chief of Army Staff General Muhammad Yousaf Khan who witnessed the test says that "all tests and all aspects of weaponization" were completed successfully. The military press release announced that the current series of tests are complete "for now" and suggests that it might conduct tests for longer-range missiles in the future. A Pakistani government official says that work is progressing to upgrade longer-range missiles.

— Bronwyn Curran, "Pakistan Test-fires Nuclear-Capable Missile," Agence France Presse, 14 October 2003, International News; in Lexis-Nexis Academic Universe, 15 October 2003, web.lexis-nexis.com; "Pakistan Test-fires Third Missile: Medium-Range Rocket Has Nuclear Capability," The Standard (St. Catherines, Ontario), 14 October 2003, News, p. C5; in Lexis-Nexis Academic Universe, 14 October 2003, web.lexis-nexis.com; "Pakistan Indigenous Missile Testing Phase: General Yousaf," Pakistan Press International Information Services Limited, 14 October 2003; in Lexis-Nexis Academic Universe, 16 October 2003, web.lexis-nexis.com.

10 October 2003

A Pakistani diplomat in New Delhi says that Shaheen-1 is a liquid-fueled missile that can be fired within 15 minutes. An official from the Indian Ministry of External Affairs says that the Shaheen-1 is a Chinese M-11 missile and not produced indigenously by Pakistan.

— Bulbul Singh, "Pakistan Launches Another Nuclear-Capable Missile," Aerospace Daily, Vol. 208, No. 8, News, p. 5; in Lexis-Nexis Academic Universe, 15 October 2003, web.lexis-nexis.com.

9 October 2003

Pakistan's military spokesperson Major General Shaukat Sultan says that Pakistan will test missiles whenever there is need to validate design parameters. A Pakistani newspaper, Jang, reports that the Shaheen-II missile with a range of 1,240 miles (2,000 kilometers) will be flight-tested in the next few days. According to the news report, Shaheen-II has never been tested before.

Related content is available on the website for the Nuclear Threat Initiative, www.nti.org.



— Sadaqat Jan, "Pakistan Says It Will Go Ahead with More Missile Tests," Associated Press Worldstream, 9 October 2003, International News; in Lexis-Nexis Academic Universe, 10 October 2003, web.lexis-nexis.com.

8 October 2003

Pakistan test-fires the Shaheen-1 (Hatf IV) medium-range ballistic missile at 8.13 AM (Pakistan Standard Time) from an undisclosed location. Pakistan's military spokesperson Major General Shaukat Sultan says that the tests were conducted to validate technical requirements. An Inter-Services Public Relations press release says that the test met all the technical parameters. Pakistan also provided advance notification of the test to neighboring countries. The Shaheen-1 is an 11-meter long missile with a range of 434 miles (700 kilometers). Pakistani sources indicate that the test was intended to verify the parameters for the missile payload. According to the sources, Pakistan has been working on various designs and warhead miniaturization since the nuclear tests in 1998.

— Rana Jawad, "Pakistan Test-fires Nuclear-Capable Missile," Agence France Presse, 8 October 2003, International News; in Lexis-Nexis Academic Universe, 9 October 2003, web.lexis-nexis.com; "Hatf-IV (Shaheen-1) Missile Successfully Test-fired," The Pakistan Newswire, 8 October 2003, Nationwide International News; in Lexis-Nexis Academic Universe, 9 October 2003, web.lexis-nexis.com; "Pakistan Tests Nuclear-Capable Shaheen-1 Missile," Japan Economic Newswire, 8 October 2003, International News; in Lexis-Nexis Academic Universe, 8 October 2003, web.lexis-nexis.com.

6 October 2003

A Pakistani diplomat at the Embassy in New Delhi says that the recent test of the Ghaznavi missile indicated improvements in the test data over the previous test conducted in May 2002. According to the diplomat, the new missile is solid-fueled and can reach its targets in India within a minute.

— Bulbul Singh, "Pakistan Test-fires Ghaznavi Ballistic Missile," Aerospace Daily, 6 October 2003, Vol. 208, No. 4, p. 7; in Lexis-Nexis Academic Universe, 9 October 2003, web.lexis-nexis.com.

3 October 2003

India's Defense Minister George Fernandes dismisses Pakistan's missile test as "nothing special" and suggests that the missile's origins might be China or North Korea.

— Paul Haven, "Pakistan Test-fires Nuclear Capable Surface-to-Surface Missile," The Associated Press, 3 October 2003, International News; in Lexis-Nexis Academic Universe, 4 October 2003, web.lexis-nexis.com.

3 October 2003

Pakistan test-fires the Ghaznavi (Hatf III) short-range ballistic missile at 8.42 AM (Pakistan Standard Time) from an undisclosed location. The missile has a range of 180 miles (290 kilometers) and can carry both conventional and nuclear warheads. A military statement issued after the tests states the test to be the first in a series of missile tests planned to validate the design parameters of various missiles. According to the statement, Pakistan informed its neighbors about the impending test. India's Defense Ministry spokesperson Amitabh Chakravorty confirms that Pakistan provided advance notification for the test. Pakistan's Information Minister Sheikh Rashid Ahmed says that the tests are designed to meet Pakistan's defense needs and are not aimed at anyone. This is the second test for Ghaznavi. Pakistan conducted the first test for the missile in May 2002. US State Department spokesperson Richard Boucher urges India and Pakistan to restrain their missile programs even though the current missile test is not

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likely to increase tensions in the region.

— "Pakistan Test-Fires Nuclear-Capable Missile," Agence France Presse, 3 October 2003, International News; in Lexis-Nexis Academic Universe, 4 October 2003, web.lexis-nexis.com; "Pakistan TV: Minister Comments on Missile Test, Army Operation in Trial Area," BBC Monitoring International Reports, 3 October 2003; in Lexis-Nexis Academic Universe, 3 October 2003, web.lexis-nexis.com; "Pakistan Begins Series of Missile Tests," Japan Economic Newswire, 3 October 2003, International News; in Lexis-Nexis Academic Universe, 3 October 2003, web.lexis-nexis.com; "Pakistan Resumes Missile Tests: India Views Nuclear-Capable Rocket Launch as 'Nothing Special'," Ottawa Citizen (Ottawa), 4 October 2003, News, p. A13; in Lexis-Nexis Academic Universe, 4 October 2003, web.lexis-nexis.com; Paul Haven, "Pakistan Test-fires Nuclear Capable Surface-to-Surface Missile," The Associated Press, 3 October 2003, International News; in Lexis-Nexis Academic Universe, 4 October 2003, web.lexis-nexis.com.

25 September 2003

Addressing a large Canadian military audience, Pakistan's President Pervez Musharraf accepts that Pakistan obtained missiles from North Korea. However, Musharraf states that those missiles were surface-to-air missiles and solely capable of carrying conventional warheads.

— "Pakistani Denies Selling or Sharing Nuclear Know-how with Others," Agence France Presse, 25 September 2003, International News; in Lexis-Nexis Academic Universe, 26 September 2003, web.lexis-nexis.com.

29 July 2003

A spokesperson for the Chinese Foreign Ministry denies US allegations of missile proliferation to Pakistan and other countries as "baseless and irresponsible."

— "Beijing Rejects Washington Accusation Transfer of Nuclear Technology to Pakistan," The Pakistan Newswire, 29 July 2003, Nationwide International News; in Lexis-Nexis Academic Universe, 30 July 2003, web.lexis-nexis.com.

24 July 2003

At a hearing of the US-China Economic and Security Review Commission, US Assistant Secretary of State for Verification and Compliance Paula A. Desutter states that China repeatedly violated its assurances to prevent proliferation of missile technology and allowed Chinese state-owned entities to transfer missile technology to Pakistan, Iran, North Korea, and Libya. According to her, China continues to engage in missile proliferation activities despite making official promises and pronouncements on the contrary.

— "China Continued to Provide Missile Tech to Pak and Others: US," The Press Trust of India, 26 July 2003, Nationwide International News; in Lexis-Nexis Academic Universe, 26 July 2003, web.lexis-nexis.com.

31 July 2003

In a statement, the Chinese Foreign Ministry denies the involvement of any local companies in transferring missile technology to other countries. The statement says that China maintains a policy of strict control over military trade and arms exports and prohibits transfer of missile technology.

— "China Denies Local Companies Shipping Missile Technology Overseas," Agence France Presse, 31 July 2003, International News; in Lexis-Nexis Academic Universe, 1 August 2003, web.lexis-nexis.com.

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24 July 2003

The United States imposes sanctions on the China Precision Machinery Import/Export Corporation (CPMIEC) prohibiting any business association with the entity.

— "Bureau of Nonproliferation; Imposition of Nonproliferation Measures on an Entity in China, Including a Ban on U.S. Government Procurement," Federal Register, 30 July 2003, Vol. 68, No. 146; in Lexis-Nexis Academic Universe, 30 July 2003, web.lexis-nexis.com.

21 July 2003

The United States determines that the China Precision Machinery Import/Export Corporation (CPMIEC) engaged in proliferation activities that require the imposition of sanctions.

— "Bureau of Nonproliferation; Imposition of Nonproliferation Measures on an Entity in China, Including a Ban on U.S. Government Procurement," Federal Register, 30 July 2003, Vol. 68, No. 146; in Lexis-Nexis Academic Universe, 30 July 2003, web.lexis-nexis.com.

12 July 2003

Pakistan's Prime Minister Zafarullah Khan Jamali, in response to a question on Pakistan's acquisition of missile technology from North Korea, denies any knowledge about the issue since he was not in the government when the alleged transfer took place. Mr. Jamali further states that such transfers are difficult to conceal and suggests that such transfers did not take place.

— Susumu Arai, "Pakistani Premier Denies N. Korean Arms Deals," The Daily Yomiuri (Tokyo), 15 July 2003, p. 15; in Lexis-Nexis Academic Universe, 14 July 2003, web.lexis-nexis.com.

6 July 2003

Colonel Shin Jae-gon, a member of the South Korean Joint Chiefs of Staff (JCS) suggests that North Korea might have received nuclear technology from Pakistan in return for helping Pakistan develop long-range missiles.

— "North Korea Developing Uranium-based Nuclear Bombs, says South Military Official," BBC Monitoring International Reports, 6 July 2003; in Lexis-Nexis Academic Universe, 6 July 2003, web.lexis-nexis.com.

26 June 2003

Pakistan's Foreign Minister, responding to India's test-firing of its Trishul surface-to-air missile, denies that Pakistan is engaged in a missile testing race with India and states that Pakistan's needs dictate its missile testing. Mr. Kasuri further asserts that because of the sophisticated nature of Pakistan's missile program, its missiles do not require constant testing.

— "Pakistan is not in Missile Competition with India: FM," Agence France Presse, 26 June 2003, International News; in Lexis-Nexis Academic Universe, 26 June 2003, web.lexis-nexis.com.

26 June 2003

In an interview with the Washington Post, President Pervez Musharraf states that Pakistan bought tactical surface-to-air missiles from North Korea to protect itself against air attacks. President Musharraf denied any nuclear dimension to the deal.

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— "Musharraf-N. Korea," The Press Trust of India, 26 June 2003, Nationwide International News; in Lexis-Nexis Academic Universe, 26 June 2003, web.lexis-nexis.com.

25 June 2003

In an interview with CNN, Pakistan's President Pervez Musharraf says that Pakistan imported conventional surface-to-air missiles from North Korea. President Musharraf states that Pakistan does not import missiles from North Korea any longer since it has started producing those missiles indigenously. President Musharraf also states that Pakistan has quantified its "conventional and unconventional" deterrence.

— "CNN Wolf Blitzer Reports," CNN, 25 June 2004; in Lexis-Nexis Academic Universe, 25 June 2003, web.lexis-nexis.com.

24 June 2003

Pakistan's Foreign Office spokesperson Masood Khan asserts that Pakistan will not rollback its nuclear capability. Mr. Khan says that Pakistan is willing to negotiate a nuclear and missile restraint regime with India.

— Shahid Hussain, "No Rollback on Nuclear Plan," Gulf News, 24 June 2004; in Lexis-Nexis Academic Universe, 24 June 2003, web.lexis-nexis.com.

22 June 2003

A Japanese government spokesperson says that Pakistani Foreign Minister Khurshid Mehmood Kasuri provided assurances to Japan's Foreign Minister Yoriko Kawaguchi that Pakistan will not export nuclear and missile technology to North Korea.

— Chang Mai, "Pakistan Assures Japan no Nuclear Technology Transfer to North Korea," Agence France Presse, 22 June 2003, International News; in Lexis-Nexis Academic Universe, 22 June 2003, web.lexis-nexis.com.

24 April 2003

Pakistani President Pervez Musharraf, responding to India's claims that Pakistan is a fit case for pre-emptive action, states that Pakistan can defend itself against any such attacks by its nuclear and missile programs.

— "Pakistan's Nukes, Missiles Save it from Pre-Emptive Strike: Musharraf," Agence France Presse, 25 April 2003, International News; in Lexis-Nexis Academic Universe, 26 April 2003, web.lexis-nexis.com.

13 April 2003

Pakistan's Foreign Office spokesperson Aziz Khan refutes the CIA's assertions in its biannual report to Congress of continuing Chinese assistance to Pakistan and states that Pakistan's missile program is completely indigenous.

— "Pak-US," The Press Trust of India, 13 April 2003, Nationwide International News; in Lexis-Nexis Academic Universe, 13 April 2003, web.lexis-nexis.com.

9 April 2003

Pakistan's Foreign Office spokesperson Aziz Ahmed Khan accuses India of missile proliferation in the region. Mr. Khan's comments came after India's Defense Minister George Minister stated that India plans to test-fire the Agni III missile in the near future. Meanwhile, Pakistan's Information and Media Development Minister Sheikh Ahmed Rashid states that Pakistan will provide an appropriate response to India's Agni III test.

Related content is available on the website for the Nuclear Threat Initiative, www.nti.org.



— B. Muralidhar Reddy, "We Will Respond to Agni III: Pak," *The Hindu* (Chennai), 9 April 2003; in Lexis-Nexis Academic Universe, 9 April 2003, web.lexis-nexis.com.

2 April 2003

A Pakistani government official says that the imposition of sanctions on Khan Research Laboratories (KRL) is related to US efforts to coerce Pakistan to participate in the US plans for post-war Iraq.

— Shahid Hussain, "Sanctions Aimed to Arm-Twist Islamabad," *Gulf News*, 3 April 2003; in Lexis-Nexis Academic Universe, 3 April 2003, web.lexis-nexis.com.

1 April 2003

US State Department spokesperson Philip Reeker states that the sanctions imposed on Khan Research Laboratories (KRL) and Changgwang Sinyong Corporation relate to a particular missile transfer and not to any other transfer including nuclear-related ones. Stating that there is some confusion regarding the imposition of sanctions, Mr. Reeker clarifies that the United States imposed sanctions in response to a "specific missile-related transfer [and] ... do not pertain to any other activity, including nuclear-related ones."

— "State Department Regular Briefing," *Federal News Service*, 1 April 2003; in Lexis-Nexis Academic Universe, 3 April 2003, web.lexis-nexis.com.

1 April 2003

The US Embassy in Islamabad issues a statement on the imposition of sanctions on Khan Research Laboratories (KRL) for its "material contribution to the efforts of a foreign country, person or entity of proliferation concern, to use, acquire, design, develop and or secure weapons of mass destruction..." The statement does not name the foreign country, person or entity that received the assistance. Pakistan's Foreign Minister Khurshid Mehmood Kasuri demands evidence from the United States supporting its decision to sanctions KRL. Pakistan's Information Minister Sheikh Ahmed Rashid says that "Pakistan has neither imported nor exported this sensitive technology."

— Shahid Hussain, "Key Uranium Plant Under U.S. Scrutiny," *Gulf News*, 1 April 2003; in Lexis-Nexis Academic Universe, 1 April 2003, web.lexis-nexis.com; "AFP: Pakistan Wants Proof from Washington of Alleged Nuclear Trade with DPRK," *World News Connection*, 1 April 2003; in Lexis-Nexis Academic Universe, 3 April 2003, web.lexis-nexis.com.

1 April 2003

Pakistan's Ambassador to the United States Ashraf Jehangir Qazi meets with senior officials in the Department of State and delivers a strong protest against the imposition of sanctions on Khan Research Laboratories (KRL).

— Anwar Iqbal, "U.S.: No Nuclear Sanctions on Pakistan," *United Press International*, 1 April 2003; in Lexis-Nexis Academic Universe, 2 April 2003, web.lexis-nexis.com.

31 March 2003

US officials indicate that the sanctions on Khan Research Laboratories (KRL) are in response to its assistance to North Korea to obtain crucial equipment and designs to develop nuclear weapons. According to officials, the administration decided to impose the relatively less punitive sanctions on KRL in view of Pakistan's support for the on-going war against terror. A senior administration official says that the United States imposed the sanctions

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since Pakistan's contribution to North Korea's nuclear weapons program could not be ignored. The official further claims that "[the imposition of sanctions] comes at a time when people aren't going to pay a lot of attention."

— David E. Sanger, "U.S. Rebukes Pakistanis for Lab's Aid to Pyongyang," *The New York Times*, 1 April 2003, Section B, Column 6, Foreign Desk, p. 15; in Lexis-Nexis Academic Universe, 1 April 2003, web.lexis-nexis.com.

31 March 2003

Pakistan's Foreign Minister Khurshid Mehmood Kasuri declares that Pakistan will continue to develop its nuclear and missile capabilities and says that the imposition of sanctions on the Khan Research Laboratories (KRL) will not have an impact on its performance. Mr. Kasuri further points that the sanctions are applicable only to an organization and are not directed against Pakistan.

— "Pakistan to Continue Pursuing Nuclear Programmes: FM," *The Pakistan Newswire*, 31 March 2003, Nationwide International News; in Lexis-Nexis Academic Universe, 31 March 2003, web.lexis-nexis.com.

31 March 2003

US State Department spokesperson Richard Boucher states that missile proliferation sanctions are imposed on North Korea for "its involvement in the transfer of Missile Technology Control Regime Category 1 items" to a "Category 1 missile program in a non-Missile Technology Control Regime country." Mr. Boucher also states that the United States imposed sanctions on Pakistan for "a material contribution to the efforts of a foreign country, person or entity of proliferation concern to use, acquire, design, develop or secure weapons of mass destruction and/or missiles capable of delivering weapons of mass destruction." Mr. Boucher refuses to link these two separate sanctions and says that one of the multiple reasons for the imposition of sanctions on Khan Research Laboratories (KRL) is its "importation of missiles."

— "State Department Regular Briefing," *Federal News Service*, 31 March 2003; in Lexis-Nexis Academic Universe, 2 April 2003, web.lexis-nexis.com.

30 March 2003

An US official says that the Bush administration decided not to sanction the Pakistani government over its importation of fully assembled North Korean Nodong missiles in view of the on-going campaign against terrorists. According to US officials, the highest levels of Pakistani government had knowledge about the missile transfer. US officials point to the use of C-130 aircraft for the transfer as an indication of the Pakistani Air Force's involvement in the operation. US officials say that sanctions are mainly symbolic in character since neither Khan Research Laboratories nor Changgwang Sinyong Corporation conduct business in the United States. A US official also says that authorities have been unable to trace a connection between the transfer of the Nodong missiles with specific cash or technology transfer. The official adds that while US officials do not rule out the possibility of Pakistani scientists' assistance to North Korea's uranium enrichment program, they do not believe that the transfer of three to six Nodong missiles is connected to it.

— Peter Slevin, "U.S. Imposes Sanctions After Missile Sale," *Washington Post*, 31 March 2003, A Section, p. A04; in Lexis-Nexis Academic Universe, 31 March 2003, web.lexis-nexis.com.

30 March 2003

The Indian Ministry of External Affairs' annual report for 2002-03 expresses concern over China's continued

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assistance to Pakistan's nuclear and missile programs.

— "MEA Report: Pak Pursuing Policy of 'Compulsive Hostility'," The Press Trust of India, 30 March 2003, Nationwide International News; in Lexis-Nexis Academic Universe, 30 March 2003, web.lexis-nexis.com.

29 March 2003

Pakistan's Foreign Ministry spokesperson denounces the US sanctions on Khan Research Laboratories (KRL) as "unjustified" and states that there will be no "material impact" either on the lab or Pakistan's missile program since the lab is not dependent on foreign assistance.

— "AFP: Pakistan Foreign Ministry Says US Ban on Missile Factory 'Unjustified'," World News Connection, 29 March 2003; in Lexis-Nexis Academic Universe, 29 March 2003, web.lexis-nexis.com; B Muralidhar Reddy, "U.S. Supply Ban will Have No Impact," The Hindu, 30 March 2003; in Lexis-Nexis Academic Universe, 29 March 2003, web.lexis-nexis.com.

Late March 2003

The Pakistani ship carrying Scud-B missiles enters Pakistani territory.

— Bronwyn Curran, "N. Korea Handed Missile Technology to Pakistan: US State Department," Agence France Presse, 2 April 2003, International News; in Lexis-Nexis Academic Universe, 3 April 2003, web.lexis-nexis.com; "N. Korea Exported Scud Missiles to Pakistan in March: Japanese Report," Agence France Presse, 2 April 2003, International News; in Lexis-Nexis Academic Universe, 2 April 2003, web.lexis-nexis.com.

26 March 2003

Pakistan test-fires the 210km-range Abdali (Hatf II) short range ballistic missile. The Abdali is capable of carrying both nuclear and conventional warheads. Pakistan conducted the test a few hours after India conducted test-fired its Prithvi short range ballistic missile. Pakistan's Information Secretary denies that the test is a response to India's missile test. Pakistan's Foreign Office spokesperson Aziz Ahmed Khan expresses surprise at India's test indicating that India did not provide prior notification for the test. Mr. Khan states that Pakistan provided India with an advance notification for the test. Mr. Khan did not provide any information about the location or the timing of the missile test. A spokesperson for India's Ministry of External Affairs says that India issued a NOTAM to mariners and airmen about the missile test. The last flight test for the missile occurred in May 2002.

— "Pakistan Tests Short Range Missile," Deutsche Presse Agentur, 26 March 2003, Politics; in Lexis-Nexis Academic Universe, 26 March 2003, web.lexis-nexis.com.

25 March 2003

US Secretary of State Colin Powell informs Pakistani President Pervez Musharraf about the imposition of missile related sanctions on Khan Research Laboratories (KRL). President Musharraf protests the imposition of sanctions.

— Nicholas Kralev, "Pakistan Purchases N. Korean Missiles," The Washington Times, 31 March 2003, p. A01; in Lexis-Nexis Academic Universe, 31 March 2003, web.lexis-nexis.com; "Minister Tells Senate Pakistan not Involved in Nuclear, Missile Proliferation," BBC Monitoring International Reports, 2 April 2003; in Lexis-Nexis Academic Universe, 3 April 2003, web.lexis-nexis.com.

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24 March 2003

The United States imposes sanctions on Khan Research Laboratories (KRL) and its sub-units for engaging in proliferation activities under Executive Order 12938. The sanctions, effective for a period of 2 years, stipulate that US government agencies cannot enter into a business contract with KRL nor provide any assistance to it. The sanctions also prohibit the importation of any goods produced by KRL. Further, KRL is banned from: acquiring defense articles and services from the United States, acquiring US made defense articles and services from foreign countries, and exporting defense articles to the United States. The United States also imposes sanctions on North Korea's Changgwang Sinyong Corporation under the Arms Control Act for engaging in proliferation activities. The sanctions are valid for a period of 2 years. Since North Korea has a non-market economy, the sanctions apply to all activities of the North Korean government that are involved in the production of missile equipment or technology, electronics, space systems or equipment, and military aircraft. Since US domestic laws do not provide for sanctions against the end user of a missile purchase, sanctions against Pakistan are imposed by an executive order signed by Assistant Secretary of State for Arms Control and International Security John Bolton.

— "Imposition of Missile Proliferation Sanctions Against a North Korean Entity," Federal Register, 2 April 2003, Vol. 68, No. 63; in Lexis-Nexis Academic Universe, 2 April 2003, web.lexis-nexis.com; "Imposition of Nonproliferation Measures on a Foreign Entity, Including a Ban on U.S. Government Procurement," Federal Register, 2 April 2003, Vol. 68, No. 63; in Lexis-Nexis Academic Universe, 2 April 2003, web.lexis-nexis.com; Nicholas Kralev, "Pakistan Purchases N. Korean Missiles," The Washington Times, 31 March 2003, p. A01; in Lexis-Nexis Academic Universe, 31 March 2003, web.lexis-nexis.com.

Mid-Late March 2003

The Pakistani ship carrying North Korean Scud-B missiles to Pakistan refuels at a Chinese port.

— "N. Korea Exported Scud Missiles to Pakistan in March: Japanese Report," Agence France Presse, 2 April 2003, International News; in Lexis-Nexis Academic Universe, 2 April 2003, web.lexis-nexis.com.

Mid-March 2003

US satellites from the National Reconnaissance Office and spy networks operated by the Central Intelligence Agency spot 10 Scud B missiles with a range of 300 kilometers loaded onto a cargo ship at the Nampo port in southwest North Korea. The ship flies a Pakistani flag.

— Bronwyn Curran, "N. Korea Handed Missile Technology to Pakistan: US State Department," Agence France Presse, 2 April 2003, International News; in Lexis-Nexis Academic Universe, 3 April 2003, web.lexis-nexis.com; "N. Korea Exported Scud Missiles to Pakistan in March: Japanese Report," Agence France Presse, 2 April 2003, International News; in Lexis-Nexis Academic Universe, 2 April 2003, web.lexis-nexis.com.

12 March 2003

According to a Pakistani diplomat at the Embassy in New Delhi, Shaheen-1 possesses superior technology, terminal-guidance mechanism, and can be fired in 15 minutes. The missile is also capable of carrying a nuclear warhead.

— Bulbul Singh, "Shaheen Missile Inducted into Pakistan's Army," Aerospace Daily & Defense Report, 12 March 2003, Vol. 205, No. 47, p. 7; in Lexis-Nexis Academic Universe, 17 March 2003, web.lexis-nexis.com.

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6 March 2003

Pakistani deploys the 700-km range Shaheen-1 (or Hatf-IV) ballistic missile. According to Pakistani officials, Shaheen-1 is 11 meters long and propelled by a single-stage engine. The missile is capable of carrying a 1-ton payload and can be fitted with various types of warheads including special cluster, fragmentation, and fuel air explosives. The last test for Shaheen-1 was conducted in October 2002. The Army's Strategic Forces Command received the missile from the National Development Complex (NDC). President Musharraf presiding over the function says that "we have defined and quantified for ourselves the notion of minimum deterrence ... the numbers defined for ourselves provide us with a comfortable security." President Musharraf congratulates the scientists of the NDC and the National Engineering and Scientific Commission (NESCOM) for their efforts in developing the missile.

— "Strategic Force gets Shaheen-1 Missile," Japan Economic Newswire, 6 March 2003, International News; in Lexis-Nexis Academic Universe, 7 March 2003, web.lexis-nexis.com; "Pakistani Army Receives Indigenously Built Ballistic Missiles," BBC Monitoring International Reports, 6 March 2003; in Lexis-Nexis Academic Universe, 6 March 2003, web.lexis-nexis.com; "Pakistan's Army Takes Formal Possession of Shaheen Missile," Agence France Presse, 6 March 2003, International News; in Lexis-Nexis Academic Universe, 7 March 2003, web.lexis-nexis.com.

February 2003

Hungarian officials stop a shipment of heavy-machinery from a Macedonian company called Mikrosam to Pakistan. Professor Samakoski, one of the top executives in the company, indicates that the equipment could be used in the nuclear industry.

— "Macedonian Company Blacklisted by US for Weapons Proliferation," Deutsche Presse Agentur, 25 December 2003, Politics; in Lexis-Nexis Academic Universe, 25 December 2003, web.lexis-nexis.com.

27 January 2003

India's Foreign Minister Yashwant Sinha expresses concern over continued Chinese assistance to Pakistan's nuclear and missile programs. Senior Indian analysts state that China is providing assistance to Pakistan through third-party conduits like North Korea.

— Edward Luce, "Claims of China-Pakistan Nuclear Links Trouble India," Financial Times (London), 28 January 2003, The Americas and Asia, p. 10; in Lexis-Nexis Academic Universe, 28 January 2003, web.lexis-nexis.com.

25 January 2003

Pakistan's Chief of the Naval Staff Admiral Shahid Karimullah denies any plan to equip submarines with nuclear missiles unless compelled by India.

— "Pakistan Navy Chief Denies Plan to Equip Submarines with Nuclear Warheads," BBC Monitoring International Reports, 26 January 2003; in Lexis-Nexis Academic Universe, 26 January 2003, web.lexis-nexis.com.

23 January 2003

Following India's missile tests, Pakistan's National Command Authority's (NCA) Development Control Committee (DCC) convenes and decides to increase security measures around sensitive installations. The review meeting decides against testing missile as a response to India's tests stating that Pakistan's missile program is guided by its "own technical dynamics." The NCA also decides to "further improve upon personnel reliability programs for

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individuals working in the strategic program."

— "Pakistan Fortifies Nuclear Defenses After India's Missile Tests," Deutsche Presse Agentur, 23 January 2003, Politics; in Lexis-Nexis Academic Universe, 23 January 2003, web.lexis-nexis.com.

20 January 2003

Pakistan's Information Minister Sheikh Rashid Ahmed says that Pakistan "will not be provoked" to test its missiles in response to India's recent series of missile tests. Pakistan's Foreign Minister Khurshid Mehmood Kasuri says that Pakistan need not engage in tit-for-tat tests since "our program is very much mature...and more advanced."

— Bronwyn Curran, "Pakistan Accuses India of Trying to Provoke Arms Race," Agence France Presse, 20 January 2003, International News; in Lexis-Nexis Academic Universe, 21 January 2003, web.lexis-nexis.com.

15 January 2003

Pakistan completes preparations for testing a 300-km range short-range surface-to-surface ballistic missile. The missile is developed by a subsidiary of the National Science Commission (NASCOM).

— "Pakistan to Test Short-Range Missile "Soon"—Experts," BBC Monitoring International Reports, 15 January 2003; in Lexis-Nexis Academic Universe, 15 January 2003, web.lexis-nexis.com.

9 January 2003

In an interview with the Middle East Broadcasting Center of the United Arab Emirates (UAE), Pakistani President Musharraf says that there is "geographical separation" between Pakistan's missiles and the warheads and stresses that warheads are integrated during times of escalation. He denies the existence of a nuclear button.

— "Pakistan Nukes, Missile are not Kept Together, Musharraf," Japan Economic Newswire, 9 January 2003, International News; in Lexis-Nexis Academic Universe, 10 January 2003, web.lexis-nexis.com.

8 January 2003

The Ghauri/Hatf V intermediate-range ballistic missile (IRBM), which has an estimated range of 1,500km, is formally inducted into the Pakistani Army's Strategic Forces Command. The Directors of the A.Q. Khan Research Labs hand over the missile to President Musharraf during a special ceremony. President Musharraf says that the "[Ghauri's] induction in the Strategic Forces will radiate the necessary effects of deterrence." He further reiterates that Pakistan achieved its deterrence capabilities through indigenous efforts and states that "our command and control structures... are watertight." Musharraf also rejects media allegations concerning Pakistani nuclear transfers to North Korea and says the news reports are a "smear campaign to denigrate and malign our national heroes and Pakistan's clean record by hostile lobbies who have always been inimical to Pakistan's status as a nuclear power." The total number of missiles inducted into the Army remains unknown. Senior Pakistani officials claim that the decision to induct the Ghauri was a response to earlier reports on India's decision to induct short-range ballistic missiles into its military.

— "New Missile Commissioned into Pakistani Army," DPA, 8 January 2003, Politics; in Lexis-Nexis Academic Universe, 8 January 2003, web.lexis-nexis.com; "Pakistan's Army Takes Possession of Nuclear-Capable Missile," AFP, 9 January 2003, International News; in Lexis-Nexis Academic Universe, 10 January 2003, web.lexis-nexis.com; "Strategic Force Command Receives Ghauri Missiles," Gulf News, 9 January 2003; in Lexis-Nexis Academic Universe, 9 January 2003, web.lexis-nexis.com; Farhan Bokhari, "Pakistan Missile Delivery Strains Relations with

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India," Financial Times (London), 9 January 2003, World News, p. 10; in Lexis-Nexis Academic Universe, 8 January 2003, web.lexis-nexis.com.

7 January 2003

The foreign ministers of Japan and India express concern over Pakistan's alleged role in the transfer of nuclear technology to North Korea. The Japanese foreign minister Yoriko Kawaguchi cautions that the clandestine transfer of nuclear and missile technology by Pakistan to North Korea will affect Japan's relations with Pakistan.

— "India, Japan Concerned Over Alleged Pakistan-North Korea Nuke Link," AFP, 7 January 2003, International News; in Lexis-Nexis Academic Universe, 7 January 2003, web.lexis-nexis.com.

1 January — 30 June 2003

According to the CIA's Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, Chinese entities continue to provide assistance for Pakistan and Iran's ballistic missile programs despite a Chinese pledge to the United States in November 2000 to end such assistance. The report states that Chinese assistance is helping Pakistan acquire the capability to serially produce solid-propellant short-range ballistic missiles (SRBMs) as well as develop solid-propellant medium-range ballistic missiles (MRBMs).

— "Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions: 1 January Through 30 June 2003" Central Intelligence Agency, www.cia.gov.

2002

25 November 2002

Ninety-two countries adopt the International Code of Conduct against Ballistic Missile Proliferation (ICOC). Countries that did not sign the agreement include India, Pakistan, China, Iran, Iraq, North Korea, Syria, and Israel. —Stephanie Van Den Berg, "Over 90 Countries Sign Ballistic Missile Code of Conduct," Agence France Presse, 25 November 2002, International News; in Lexis-Nexis Academic Universe, 25 November 2002, web.lexis-nexis.com.

25 November 2002

Pakistan denies a US media report that says Pakistan traded in nuclear technology. Pakistan's Foreign Ministry spokesperson Aziz Ahmed Khan says, "We have never indulged in nuclear commerce. We have a multi-layered command and control system for our nuclear program." The government statement adds "Pakistan's commitment that it would not export any sensitive technology to a third country remains unquestionable...Pakistan's record in this regard is impeccable."

—"Pakistan rejects report it helped North Korea with nuclear weapons," Deutsche Presse-Agentur, 25 November 2002; in Lexis-Nexis Academic Universe, 25 November 2002, web.lexis-nexis.com.

13 November 2002

US officials believe that Pakistan assisted North Korea's nuclear weapons program until the summer of 2002. Even though US officials publicly state that Pakistan altered its behavior towards North Korea after the terrorist attacks on September 11, 2001, in reality, US officials admit that Pakistan continued to trade nuclear technical knowledge,

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designs, and possibly material in exchange for missile parts as recently as three months ago. US intelligence officials have briefed members of the Congress on this issue. Pakistan's Ambassador to the United States, Ashraf Jehangir Qazi, denies the allegations and states, "No material, no technology ever has been exported to North Korea."

—Glenn Kessler, "Pakistan's N. Korea Deals Stir Scrutiny; Aid to Nuclear Arms Bid May Be Recent," *Washington Post*, 13 November 2002, p. A01; in Lexis-Nexis Academic Universe, 13 November 2002, web.lexis-nexis.com.

Late October 2002

US Secretary of State Colin Powell says that there is no ongoing program of nuclear cooperation between Pakistan and North Korea. Colin divulges that Pakistani President Pervez Musharraf has offered him "four hundred percent assurance" that there is no such interchange taking place now.

— David E. Sanger, "Alliances: In North Korea and Pakistan, Deep Roots of Nuclear Barter," *The New York Times*, 24 November 2002, p. 1; in Lexis-Nexis Academic Universe, 24 November 2001, web.lexis-nexis.com.

19 October 2002

A senior US official says that Pakistan supplied nuclear weapon-related equipment and technology to North Korea despite denials by Pakistan's president.

—"USA Confirms Pak Finger in N Korea's Nuke Pie," *The Statesman (Calcutta)*, 20 October 2002; in Lexis-Nexis Academic Universe, 21 October 2002, web.lexis-nexis.com.

19 October 2002

Pakistan's President Pervez Musharraf denies assisting North Korea and says, "There is no such thing as collaboration with North Korea in the nuclear arena."

— Roland Watson and Zahid Hussain, "U.S. attacks N. Korea's 'suppliers': Russia, China and Pakistan accused of aiding rogue state's nuclear program," *Ottawa Citizen*, 19 October 2002, p. A9; in Lexis-Nexis Academic Universe, 19 October 2002, web.lexis-nexis.com.

18 October 2002

Two US officials indicate that Russia and Pakistan are North Korea's main suppliers of equipment for uranium enrichment for nuclear weapons. The officials say that China is also one of the suppliers for North Korea's nuclear weapons program.

—George Gedda, "Nuclear N. Korea worries U.S.," *The Standard (St. Catharines)*, p. C14; in Lexis-Nexis Academic Universe, 19 October 2002, web.lexis-nexis.com.

18 October 2002

Pakistan's chief presidential spokesperson General Rashid Qureshi describes as "absolutely rubbish and baseless" a recent news report suggesting Pakistani transfer of nuclear technology to North Korea in exchange for missiles.

—"Pakistan denies nuclear-missile trade-off with North Korea," *Deutsche Presse-Agentur*, 18 October 2002, Politics; in Lexis-Nexis Academic Universe, 18 October 2002, web.lexis-nexis.com.

17 October 2002

US intelligence officials conclude that Pakistan supplied North Korea with vital equipment for its secret nuclear

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weapons program. US intelligence officials say that Pakistan provided nuclear technology to North Korea in exchange for North Korean missiles. According to US officials, the trade between Pakistan and North Korea began around 1997 and seems to have extended even after Pakistan became an ally of United States in the war on terror. US officials approximate that North Korea started its uranium enrichment project in 1997 or 1998, around the same time Pakistan tested the missiles it received from North Korea. A spokesperson for Pakistan's embassy, Asad Hayauddin, says it is "absolutely incorrect" to charge Pakistan with supplying nuclear technology to North Korea. — David E. Sanger and James Dao, "A Nuclear North Korea: Intelligence; U.S. Says Pakistan gave Technology to North Korea," *New York Times*, 18 October 2002, p. 1; in Lexis-Nexis Academic Universe, 18 October 2002, web.lexis-nexis.com.

9 October 2002

A Pakistani defense ministry statement about the missile test on 8 October says, "This test was in continuation of the one conducted on 4 October 2002 to validate additional parameters. These parameters stand completely validated in the light of data collected from the test."

—"Pakistan Launches Second Missile Test," *Courier Mail* (Queensland, Australia), 9 October 2002, p. 17; in Lexis-Nexis Academic Universe, 8 October 2002, web.lexis-nexis.com.

8 October 2002

Pakistan test-fires another Shaheen-I medium-range surface-to-surface ballistic missile. Pakistani defense reports indicate the missile's range to be 820 kilometers.

—"Pakistan test fires another missile of Shaheen series," Deutsche Presse-Agentur, 8 October 2002, Miscellaneous; in Lexis-Nexis Academic Universe, 8 October 2002, web.lexis-nexis.com; "Pakistan tests missile," *Vancouver Province*, 9 October 2002, p. A24; in Lexis-Nexis Academic Universe, 9 October 2002, web.lexis-nexis.com.

7 October 2002

A senior Pakistani government officials reveals that Pakistan is preparing to conduct a test of the nuclear-capable Shaheen medium-range missile tomorrow. According to the official, Iran, Afghanistan, and India have been given advance notice about the test. The official says the test will be conducted in southern Pakistan. Pakistani Foreign Ministry spokesperson Aziz Ahmed Khan says the tests are being conducted for purely technical reasons. According to a local daily, *The News*, the missile to be test-fired will have a range of 800 kilometers (500 miles) and an accuracy of 25 to 50 meters. The daily also reports that the missile will be tested from Sonmiani, the same site where the previous Shaheen missile test was conducted on 4 October. The missile is expected to take off from Sonmiani and will hit its target near Sandhak. Sonmiani is located 75 kilometers north of Karachi and 50 kilometers east of the Iranian border. A team of scientists led by Dr. Samar Mubarakmand, chairman of the National Engineering and Scientific Commission, have reached the test-site. The test will be witnessed by the Vice Chief of Army Staff, General Muhammad Yousaf and the Karachi Corps Commander and several other defense officials.

—Bronwyn Curran, "AFP: Pakistani Foreign Ministry Spokesman on Preparing for 2nd Missile Test," AFP, 7 October 2002; in FBIS Document, JPP20021007000177, 7 October 2002; Hanif Khalid, "Pakistan to test Fire Another Ballistic Missile on 8 October," *The News* (Internet Version), 7 October 2002; in FBIS Document, SAP20021007000010, 7 October 2002.

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4 October 2002

Pakistan's Ministry of Defense announces that Pakistan test-fired a medium-range surface-to-surface ballistic missile of the Hatf series. The missile is acknowledged as a Hatf-4, also called a Shaheen-I. The statement says that Pakistan provided advance notification of the test to neighboring countries. Foreign Ministry spokesperson Aziz Ahmed Khan says the testing was done to verify "the technical aspects of the indigenously produced missile." The nuclear capable missile weighs 10 tons, measures 40 feet in length, and has a range of 500 miles. London-based *Jane's Defense Weekly* states that the missile has a range of 430 miles and a payload capacity of 1,000 kilograms. Pakistani officials have claimed in the past that the missile can be fired on 15-minutes' notice.

—"Pakistan successfully test fires new missile," Deutsche Presse-Agentur, 4 October 2002; in Lexis-Nexis Academic Universe, 4 October 2002, web.lexis-nexis.com; "Pakistanis Test Ballistic Missile," *New York Times*, 4 October 2002, p. 3; in Lexis-Nexis Academic Universe, 4 October 2002, web.lexis-nexis.com; "Pakistan Tests Medium-Range Ballistic Missile," *Washington Post*, 4 October 2002, p. A24; in Lexis-Nexis Academic Universe, 4 October 2002, web.lexis-nexis.com.

3 October 2002

In response to India's testing of the Trishul and Dhanush missiles, Pakistan announces plans to test-fire the Shaheen missile. The test is expected to take place anytime in the next 24 hours from the Sonmiani test site. The Shaheen missile has a range/payload capacity of 750km/500kg and can hit its target accurately. This solid-fueled missile can be fired from fixed or mobile launchers.

—"Pakistan to Conduct Missile test Within 24 Hours, Musharraf to Attend," *Khabrain* (Islamabad), 3 October 2002; in FBIS Document, SAP20021003000010, 3 October 2002.

26 August 2002

A senior US diplomat says that the United States welcomes the new Chinese regulations on missile exports but insists that the ban on launching US satellites on Chinese rockets will remain. US State Department spokesperson says the United States wants to see an "actual, real reduction" in China's missile exports.

—William Foreman, "U.S. welcomes Chinese missile rules but not ready to drop ban on satellite launches," Associated Press, 27 August 2002, International News; in Lexis-Nexis Academic Universe, 28 August 2002, web.lexis-nexis.com.

25 August 2002

China announces a set of rules for tightening its export control regulations on missiles and missile-related items and technologies. According to the new rules, China will implement a licensing system to monitor its export of missile and missile-related items and technologies.

—"China announces missile export control regulations," *Japan Economic Newswire*, 25 August 2002, International News; in Lexis-Nexis Academic Universe, 25 August 2002, web.lexis-nexis.com.

24 August 2002

The US State Department announces sanctions on North Korea for its "unauthorized proliferation activities" involving the sale of Ghauri missiles and technology to Pakistan and scud missiles to Yemen.

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—"USA Imposes Missile Sanctions on N Korea," *The Stateman* (India), 25 August 2002; in Lexis-Nexis Academic Universe, 29 August 2002, web.lexis-nexis.com.

22 August 2002

The US government announces that it will impose sanctions on the North Korean company Changgwang Sinyong Corp. (North Korea Mining Development Trading Corp.) for violating the Missile Technology Control Regime (MTCR) by supplying components of missile systems. US officials do not give information on the recipient of the missile-related components nor do they provide specific information on the supplied equipment. Changgwang Sinyong Corp. has been sanctioned in the past for supplying missile technology to Iran and Pakistan.

—Eli J. Lake, "U.S. to Sanction North Korean Firm," United Press International, 22 August 2002; in Lexis-Nexis Academic Universe, 22 August 2002, web.lexis-nexis.com.

1 August 2002

According to sources, Pakistan has developed an advanced nuclear-capable ballistic missile called Shaheen-3. The missile has a 25-meter accuracy rate and a range of 750km. The missile is also capable of evading the anti-ballistic missile system that India is trying to acquire from Israel. The missile has been developed by the National Engineering and Scientific Commission (NESCOM), which also recently tested the Hatf-3 for the Pakistani Navy. The Hatf-3 is five meters long and weighs 5,000 kilograms, making it easily launchable from sea. The Hatf-3 is a solid-fueled, nuclear-capable missile with terminal guidance system.

—"Daily Reports Pakistan Developed New Ballistic Missile System," *Jang* (Karachi), 1 August 2002; in FBIS Document, SAP20020801000120, 1 August 2002.

31 July 2002

Pakistan's Naval Chief Admiral Abdul Aziz Mirza says that Pakistan should acquire a sea-based nuclear delivery system for deterrence purposes. He, however, rules out an arms race with India.

—"Pak Should Think of Sea-Basing N-Arms," Press Trust of India, 31 July 2002, nationwide International News; in Lexis-Nexis Academic Universe, 31 July 2002, web.lexis-nexis.com.

8 June 2002

US Assistant Secretary of State for Nonproliferation, Thomas Wolf, in his testimony to the Senate Governmental Affairs Committee, says that China recently provided Pakistan with missile-related technical assistance. According to Mr. Wolf, the assistance includes, "dual-use missile related items, raw materials, and other accessories essential for missile manufacturing."

—"U.S. Says China Provided Pakistan with Missile-Related Tech," Press Trust of India, 8 June 2002, Nationwide International News; in Lexis-Nexis Academic Universe, 9 June 2002, web.lexis-nexis.com.

7 June 2002

Senior British sources indicate that Pakistan's nuclear missiles can be launched by a brigadier or a corps commander without central authority in the event of disruption of communications during a war. In order to increase the survivability of its Ghauri and Shaheen missiles, Pakistan has dispersed them to remote areas that have limited communications facilities.

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—David Blair, "Whose Finger on the Button?: In Pakistan, Launching Nuclear Weapons May be Down to Corps Commander in the Field," *Gazette* (Montreal), p. B1; in Lexis-Nexis Academic Universe, 7 June 2002, web.lexis-nexis.com.

31 May 2002

Pakistan's Ambassador to Japan, Mr. Touqir Hussain, says that there are no plans to conduct further missile tests. —"Pakistani Ambassador Says No Plan for Further Missile Tests," Japan Economic Newswire, 31 May 2002, International News; in Lexis-Nexis Academic Universe, 31 May 2002, web.lexis-nexis.com.

31 May 2002

According to Indian military sources, Pakistan is facing severe technological difficulties in the areas of storage, accuracy, range, and command mechanisms of its missiles. A Pakistani military delegation is currently in Beijing discussing with Chinese missile experts about a possible strategic depth needed in the event of an Indian attack. Indian military observers monitoring Pakistani missile tests remain skeptical about the capability of the recently tested missiles. They claim that the missiles did not reach their targets and had mid-air troubles that might result in the missiles falling into Pakistani territory. Sources say, "The Chinese technological inputs did not work for Ghauri and subsequently for Ghaznavi." According to sources, the Ghauri missile can be mounted with a small 5kt nuclear warhead.

—"Chinks in Pak's Missile Armoury," *Financial Express* (Mumbai), 31 May 2002; in Lexis-Nexis Academic Universe, 31 May 2002, web.lexis-nexis.com.

28 May 2002

Pakistan test-fires a short-range missile, Abdali, with a range of 180km and the capability of carrying tactical warheads. Pakistani television reports the Abdali as the first version of Hatf-2 and says the latest test-firing completes the current tests of Hatf series of missiles.

—"Pakistan tests another short-range missile," Deutsche Presse-Agentur, 28 May 2002; in Lexis-Nexis Academic Universe, 28 May 2002, web.lexis-nexis.com.

27 May 2002

Pakistan plans to conduct five more missile tests in the next 24 hours. According to Pakistani government sources, the Space and Upper Atmosphere Research Commission (SUPARCO) has been entrusted with the task of carrying out the tests. The missiles to be tested belong to the Hatf series.

—Salef Zafir, "Pakistan to Test-Fire Five More Missiles Within Next 24 Hours," *The News* (Karachi), 27 May 2002, News Update; in FBIS Document, SAP20020527000065, 27 May 2002.

26 May 2002

A top Pakistani defense official says that the recently tested Ghauri-II has already been inducted into the Army and claims that the missile can be launched from ships. The Chairman of National Engineering and Scientific Commission, Samar Mubarakmand, claims that Ghauri-II can hit targets at 1,600km. However, international media sources suggest that the missile tested on Saturday logged only 900km.

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—"Ghauri-II Already Inducted into Pak Army," Press Trust of India, 26 May 2002, Nationwide International News; in Lexis-Nexis Academic Universe, 29 May 2002, web.lexis-nexis.com.

26 May 2002

Indian security sources believe the recently tested Ghaznavi missile to be the Chinese M-11 missile. According to the sources, China may be working with Pakistan on the 2,000km M-18 missile, which Pakistan might have renamed as Shaheen-II (Hatf-6). According to news reports, Pakistan has renamed M-11 as Hatf-3/Shahen and the M-9 as Hatf-4/Shahen-I. [Note: This report is unsubstantiated.]

—Atul Aneja, "Step Up Diplomatic Pressure: India," *The Hindu* (Chennai), 26 May 2002; in Lexis-Nexis Academic Universe, 26 May 2002, web.lexis-nexis.com.

26 May 2002

Pakistan successfully test-fires a short-range ballistic missile of the Hatf series. The military announcement says, "This was the first test of the Ghaznavi, which is capable of carrying warheads accurately up to a range of 290 kilometers." The statement says the flight data from the test validates all design parameters. Sources from Pakistan's nuclear and defense establishment claim that the testing of Ghaznavi-1 indicates the resumption of tests of Pakistan Army's indigenous missile development program that was discontinued after the failed tests of Hatf-2 in 1989. The sources claim that the Pakistani Army continued its indigenous missile development efforts in parallel with the missile development program of the Pakistan Atomic Energy Commission and Khan Research Laboratory.

—"Pakistan successfully tests short-range ballistic missile," *Deutsche Presse-Agentur*, 26 May 2002, Politics; in Lexis-Nexis Academic Universe, 27 May 2002, web.lexis-nexis.com; "Pakistan Running Three Parallel Missile Development Programs," Japan Economic Newswire, 26 May 2002, International News; in Lexis-Nexis Academic Universe, 26 May 2002, web.lexis-nexis.com.

26 May 2002

According to sources, Pakistan will test-fire two more missiles in the next two days and begin a new series of tests in three weeks. Highly informed sources reveal that a missile in the Hatf series will be tested in the next 24 hours. The tested missiles are being produced in large numbers to avoid a shortage during an emergency.

— Mohammed Saleh Zafir, "Pakistan to test-Fire More Missiles, To Develop MIRV Missile System," *Jang* (Karachi), 26 May 2002; in FBIS Document, SAP20020526000054, 26 May 2002.

25 May 2002

Pakistan test-fires its medium-range Ghauri (Hatf-V) ballistic missile. Pakistan's President Pervez Musharraf says the test was conducted at 9:30 a.m. and claims the missile's range as 1,500km. The missile is launched from a mobile launcher and its range is shortened to 1,200 kms from 1,500km. The missile travels a distance of 400km into space, takes a turn towards land, and strikes its target in the Chagai area in Balochistan in nine minutes. The missile carried a payload of one ton. In its statement, the military-run Inter-Services Public Relations (ISPR) says it was the third test for the Ghauri missile and test results indicate that all the design parameters "have been successfully validated." The ISPR statement says the tests are a part of research and development of Pakistan's indigenous missile program and will be conducted based on technical needs. The ISPR statement does not provide details about the missile's range and the test range, but a Pakistani official indicates the test range might be in

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Dera Ghazi Khan, a remote tribal place. A senior Pakistani defense official says that the testing took place at the Ratla testing range. Pakistan's Information Secretary Anwar Mahmood says India and other neighbors of Pakistan were given advance notification of the missile tests.

—"Pakistan test-fires nuclear-capable missile," *Deutsche Presse-Agentur*, 25 May 2002; in Lexis-Nexis Academic Universe, 25 May 2002, web.lexis-nexis.com; "Pakistan conducts test of medium-range missiles: Islamabad says it warned India of its plans," *The Vancouver Sun* (British Columbia, Canada), 25 May 2002, p. A15; in Lexis-Nexis Academic Universe, 25 May 2002, web.lexis-nexis.com; Shahid Iqbal, "Pakistan Tests Nuclear-Capable Missile," United press International, 25 May 2002, General News; in Lexis-Nexis Academic Universe, 25 May 2002, web.lexis-nexis.com; Mohammed Saleh Zafir, "Pakistan to test-Fire More Missiles, To Develop MIRV Missile System," *Jang* (Karachi), 26 May 2002; in FBIS Document, SAP20020526000054, 26 May 2002.

25 May 2002

Pakistan announces that it will test a new series of short- and intermediate-range ballistic missiles at the Tilla Range; the missiles that will be tested are nuclear capable. During the test, each missile will carry a payload equivalent to the weight of a nuclear warhead. The missiles will be fired toward sea-based targets, and space-based satellites will be used to compile the results of the data generated during the tests. According to Pakistani sources, Pakistan has acquired the capability to produce "multi-independent re-entry vehicles (MIRV) that can deliver three to seven bombs over an area of 80,000 square kilometers. A Pakistani government spokesperson announces that several countries including India, Iran, and the United States have been given prior notification of the tests. [Note: The claim about MIRVs cannot be verified independently.]

—"Pakistan Reportedly Develops Capability for Multi-Warhead Missiles," BBC Monitoring International Reports, 25 May 2002; in Lexis-Nexis Academic Universe, 25 May 2002, web.lexis-nexis.com; Rahul Bedi, "Pakistan Tells India It Will Test Its Missiles Today," *Irish Times* (Dublin), 25 May 2002, City Edition, World News, p. 13; in Lexis-Nexis Academic Universe, 25 May 2002, web.lexis-nexis.com.

24 May 2002

Pakistan announces plans to test a range of nuclear-capable missiles between 25-28 May. A Pakistani government spokesperson describes the planned tests to be "routine tests" conducted for technical reasons. The spokesperson claims the tests are not related to the existing tense situation between India and Pakistan. Pakistani sources indicate that Shaheen, Ghauri, and a Pakistani version of the Chinese M-11 missile will be tested over the next three days. A Pakistani official says the tests are needed to fine-tune the guidance systems for the missiles. The missile tests are expected to be conducted in Dera Ghazi Khan, a remote tribal region southwest of Islamabad.

—"Pakistan announces it plans to test nuclear-capable missiles," *Deutsche Presse-Agentur*, 24 May 2002; in Lexis-Nexis Academic Universe, 24 May 2002, web.lexis-nexis.com.

21 May 2002

Pakistan develops an intermediate-range ballistic missile, Shaheen-III, and finalizes preparations for its test-firing. The missile is capable of carrying a nuclear warhead. The missile was supposed to be tested on 18 May but the test was postponed. Shaheen-III is a solid-fueled missile with a range of over 2,500km and a payload capacity of 1,000kg. The missile has a computerized terminal guidance system and will be fired from a mobile launcher towards a target in the Arabian Sea. According to a news report, Pakistan has conducted "motor-engine" tests for

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another short-range ballistic missile called the Haider-I. Pakistan reportedly possesses seven types of surface-to-surface ballistic missiles.

—"Pakistan to test-Fire Shaheen-III Missile 'At Any Moment'," BBC Monitoring International Reports, 21 May 2002; in Lexis-Nexis Academic Universe, 21 May 2002, web.lexis-nexis.com.

12 May 2002

Bruce Riedel, a senior adviser to Bill Clinton on India and Pakistan, reveals that Pakistan mobilized its nuclear arsenal against India during the Kargil crisis in 1999.

—Shyam Bhatia and Tom Walker, "Pakistan Made Preparations for Nuclear Strike on India," *Sunday Times* (London), 12 May 2002; in Lexis-Nexis Academic Universe, 13 May 2002, web.lexis-nexis.com.

10 May 2002

Pakistan plans to conduct missile tests in the "next 10 days" by test-firing its short-range and medium-range missiles. The Strategic Plans Division (SPD) is planning to conduct several tests of the medium-range Ghauri and the short-range Shaheen missiles. Preparations are proceeding at full-pace at Tilla near Jhelum and Sonmiani near Karachi. According to a local newspaper, the objective of the test is to "fine-tune the guidance systems of the missiles that have already been tested." The testing will take place by mounting mock nuclear warheads on the missiles to measure their performance. The tests are in response to India's testing of its Agni-I and Akash missiles.

—"Pakistan Reportedly To test Fire Missiles 'in Next 10 Days' — Indian Agency," BBC Monitoring International Reports, 10 May 2002; in Lexis-Nexis Academic Universe, 10 May 2002, web.lexis-nexis.com.

21 April 2002

Pakistan begins preparations for testing the Ghauri-3 missile, which has a range of about 3,000km and is more powerful and bigger than the Ghauri-2. Preliminary tests for the Ghauri-3 are reported to have been completed successfully, and all employees of Kahuta Research Laboratories have been barred from taking leave. The test preparations are in response to the ongoing tensions with India, the increase in Indian defense budget, and the Indian government's testing of the Agni and Dhanush ballistic missiles.

—"Pakistan Reportedly Begins Preparations For Testing Ghauri-3 Missile," BBC Monitoring International Reports, 21 April 2002; in Lexis-Nexis Academic Universe, 21 April 2002, web.lexis-nexis.com.

7 April 2002

Pakistani President Pervez Musharraf indicates that Pakistan is willing to use nuclear weapons if it faces a serious threat from India.

—Roger Boyes, "Musharraf Warns India He May Use Nuclear Weapons," *The Times* (London); in Lexis-Nexis Academic Universe, 8 April 2002, web.lexis-nexis.com.

21 May 2002

Following increasing tensions along the border between India and Pakistan, Pakistan reportedly deploys its 750km-range Shaheen ballistic missiles.

—"Parakram Peaks, Shaheen Deployed," *The Statesman* (Calcutta), 21 May 2002; in Lexis-Nexis Academic Universe, 21 May 2002, web.lexis-nexis.com.

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27 March 2002

The Pakistani government plans to boost its weapons exports from \$20 million per annum to \$120 million per annum. The military establishment is confident of manufacturing a large array of weapons systems for exports, including ballistic missiles.

—"Pak Plans Major Export of Weapons — Report," Press Trust of India, 27 March 2002, Nationwide International News; in Lexis-Nexis Academic Universe, 28 March 2002, web.lexis-nexis.com.

25 March 2002

According to *Jane's Intelligence Review*, Pakistan has edged past India in nuclear weapons capability since the tests in 1998. According to the report, Pakistan will use its liquid-fueled Ghauri missiles for offensive purposes and the solid-fueled Shaheen series for defensive purposes. The report says that Pakistan has also established the Nuclear Command Authority and the Pakistan Nuclear Regulatory Authority.

—"Pak Moving Ahead of India in Nuke Capability: Report," Press Trust of India, 25 March 2002, Nationwide International News; in Lexis-Nexis Academic Universe, 26 March 2002, web.lexis-nexis.com.

19 March 2002

US Central Intelligence Agency (CIA) Director George Tenet, in his testimony to the Senate Armed Services Committee, says China is a key supplier of missile technology to Pakistan, Iran, and other countries. The Director of the Defense Intelligence Agency (DIA), Vice Admiral Thomas R. Wilson, in his testimony to the Senate Armed Services Committee, says that China has provided missile and other assistance to Iran and Pakistan.

—"CIA chief Russia, China, North Korea as proliferators," Agence France Presse, 20 March 2002, Domestic, non-Washington, general News; in Lexis-Nexis Academic Universe, 19 March 2002, web.lexis-nexis.com; "Prepared Testimony of Vice Admiral Thomas R. Wilson Director, Defense Intelligence Agency," *Federal News Service*, 19 March 2001, Prepared Testimony; in Lexis-Nexis Academic Universe, 19 March 2002, web.lexis-nexis.com.

13 March 2002

Pakistani Foreign Minister Abdul Sattar denies any military cooperation with North Korea during talks with the Japanese Foreign Minister Yoriko Kawaguchi. According to a Japanese official, Mr. Sattar told Mr. Kawaguchi that Pakistan's missile program is "self-sustaining." Mr. Sattar assures the Japanese foreign minister that Pakistan's nuclear weapons and technology are safe and under strict control.

—"Pakistan Denies Military Ties with N. Korea," Jiji Press Ticker Service, 13 March 2002; in Lexis-Nexis Academic Universe, 13 March 2002, web.lexis-nexis.com.

11 March 2002

China and Pakistan sign a memorandum of understanding on military cooperation and collaboration in the defense production sector. The Chinese delegation is led by General Xiong Guangkai, Deputy Chief of General Staff of the People's Liberation Army.

—"Pakistan Signs Military Cooperation Agreement with China," Agence France Presse, 11 March 2002, International News; in Lexis-Nexis Academic Universe, 11 March 2002, web.lexis-nexis.com.

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28 February 2002

Chinese Foreign Ministry spokesperson Kong Quan announces that China and the United States will attempt to resolve the issue of trying to halt the spread of weapons of mass destruction in early March in Washington, DC. Mr. Quan also refutes US claims that China Metallurgical Equipment Corp (MECC) was secretly exporting missile-related items to Pakistan.

—"China, U.S. to Thrash out Nonproliferation in March," Japan Economic Newswire, 28 February 2002, International News; in Lexis-Nexis Academic Universe, 28 February 2002, web.lexis-nexis.com.

26 February 2002

A senior Chinese foreign policy official says that the United States must take the next step to resolve the dispute over Chinese exports of missile technology. The imposition of sanctions in September 2001 on a Chinese arms company for selling missile parts to Pakistan remains a point of concern. Chinese officials contend that the deal is not covered under the November 2000 agreement since it was made prior to the conclusion of the accord. US officials, however, insist that they had a verbal understanding with Chinese officials that deals made prior to November 2000 will be covered by the accord.

—Erik Eckholm, "China Says Next Move in Arms Talks is up to U.S.," *New York Times*, 27 February 2002, Section A, p. 5; in Lexis-Nexis Academic Universe, 27 February 2002, web.lexis-nexis.com.

22 February 2002

China says it is preparing a list of export controls for missile-related items but rejects US charges that it violated the November 2000 agreement by selling missiles to Pakistan. Chinese foreign office spokesperson Kong Quan says that any violators of the nonproliferation laws and regulations will be punished accordingly.

—"China Denies Violating Sino-U.S. Non-Proliferation Agreement," Press Trust of India, 22 February 2002, Nationwide International News; in Lexis-Nexis Academic Universe, 22 February 2002, web.lexis-nexis.com.

21 February 2002

US President George Bush fails to persuade Chinese President Jiang Zemin to halt the sale of missile technology to Iran, Pakistan, and other nations during his two-day state visit to China. China made a pledge in November 2000 to curb its exports of sensitive nuclear equipment and know-how to countries like Iran and Pakistan. US officials, however, complain that China has not begun to formulate its export control rules and a list of sensitive technologies, nor has it clamped down on export deals made before the November agreement.

—"Bush Hopes for Nuclear Deal: He Lands in China With Warm Welcome for Support in War on International Terrorism," *Gazette* (Montreal), 21 February 2002, News, page A15; in Lexis-Nexis Academic Universe, 21 February 2002, web.lexis-nexis.com; Ron Fournier, "Bush Fails to Win Missile Deal," *Courier Mail* (Queensland), 22 February 2002, p. 12; in Lexis-Nexis Academic Universe, 21 February 2002, web.lexis-nexis.com.

20 February 2002

According to US officials, China continued to send shipments to Iran and Pakistan even after the terrorist attacks on September 11, 2001 and after President Bush's visit to Shanghai in October 2001, when the issue was raised with the Chinese President Jiang Zemin. A US official comments, "the Chinese profess to have a policy of non-proliferation, they insist they don't export missile technology, and yet we still keep seeing evidence of shipments

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to countries that are also seeking weapons of mass destruction."

—David E. Sanger, "China is Treated More Gently Than North Korea for the Same Sin," *New York Times*, 21 February 2001; in Lexis-Nexis Academic Universe, 21 February 2002, web.lexis-nexis.com.

17 February 2002

Pakistani scientists strongly urge the government to grant them permission to test-fire the long-range Shaheen-II missile. The scientists claim that testing will expedite the manufacturing process for the missile. The missile reportedly has a range of 2,500km and can reach its target in less than twelve minutes. The missile has a payload capacity of one ton. Pakistani sources indicate that Shaheen-II, if launched from Punjab, can hit any city in India. Sources say that the target for test-firing will be located in the sea since Pakistan does not have the required land area to accommodate the entire range of the missile.

—Muhammad Saleh Zafir, "Pakistani Scientists Seek Permission to Test-Fire Shaheen-II Missile," *Jang* (Karachi), 17 February 2002; in FBIS Document, SAP20020218000056, 18 February 2002.

8 February 2002

Experts and diplomats from 73 countries, including India, Pakistan, Israel, Libya, Iran, Russia, and the United States, meet in Paris to discuss a draft code of conduct for ballistic missiles prepared by France. The draft code requires participating countries to describe their ballistic missile programs annually and provide advance notification of each missile test to each other.

—"Experts from 73 States Discuss Missile Code of Conduct," Agence France Presse, 8 February 2002, International News; in Lexis-Nexis Academic Universe, 8 February 2002, web.lexis-nexis.com.

5 February 2002

China refutes the US Central Intelligence Agency (CIA) report, which mentions Chinese assistance to Pakistan's missile development program. A Chinese foreign office spokesperson says, "The report has no truth."

—"China Denies Helping Pakistan's Missile Program," *Business Recorder*, 5 February 2002; in Lexis-Nexis Academic Universe, 7 February 2002, web.lexis-nexis.com.

4 February 2002

Pakistan moves M-11 missiles to operational locations along the Indian border in Punjab, Jammu, and Kashmir.

—"Pakistan Reportedly Deploys M-11 Missiles on Border with India," BBC Monitoring International Reports, 5 February 2002; in Lexis-Nexis Academic Universe, 5 February 2002, web.lexis-nexis.com.

2 February 2002

Pakistan rejects reports that China is assisting its missile program. Pakistan's foreign office spokesperson says, "Pakistan's missile technology is totally indigenous and even China has made a statement saying that it would not supply Pakistan any technology or missiles in violation of the missile control technology regime."

—"Pakistani spokesman says missile program 'Totally Indigenous'," BBC Monitoring International Reports, 3 February; in Lexis-Nexis Academic Universe, 3 February 2002, web.lexis-nexis.com.

31 January 2002

The US Central Intelligence Agency (CIA), in its semi-annual report to Congress, expresses concern that countries

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like India, Pakistan, Iran, and North Korea may become "secondary proliferators." The report says that increasing self-sufficiency of these nations' weapons of mass destruction programs and their lack of participation in the supplier regimes such as the Nuclear Suppliers Group, the Australia Group, and the Missile Technology Control Regime increases the risk of proliferation from these countries.

—"CIA Concerned India, Pak May Become Secondary Proliferators," Press Trust of India, 31 January 2002, Nationwide International News; in Lexis-Nexis Academic Universe, 31 January 2002, web.lexis-nexis.com.

28 January 2002

Pakistan decides not to respond immediately to India's test-firing of the Agni-I ballistic missile. The chief presidential spokesperson, Major General Rashid Qureshi, says, "We are exercising restraint."

—Farhan Bokhari, "Islamabad Holds Off on Response to India Test," *Financial Times* (London), p. 8; in Lexis-Nexis Academic Universe, 27 January 2002, web.lexis-nexis.com.

26 January 2002

In response to a question on Pakistan's nuclear readiness, Pakistan's military spokesperson, Major General Rashid Qureshi, says, "We do not discuss operational aspects....Pakistan can defend itself and has its deterrence in place."

—"Pakistan's Deterrence is in Place: Military Spokesman," Agence France Presse, 26 January 2002, International News; in Lexis-Nexis Academic Universe, 26 January 2002, web.lexis-nexis.com.

26 January 2002

Pakistani sources claim that Pakistan possesses more reliable terminal guidance systems than India. According to these sources, Pakistan's missiles can reach their targets with an accuracy of within millimeters and inches. Sources claim that Shaheen can travel two to two-and-a-half times faster than India's Agni missile because of its solid-fuel capability. The Shaheen-II missile can travel 2,500 kilometers in 15 minutes and has an accuracy of within 100 meters. The sources further claim that Pakistani scientists have completed preparations for testing the new Shaheen missiles and are waiting for the government's signal to conduct testing. Sources say that Pakistan will conduct a test of Shaheen-II if the world does not take strict action in response to India's Agni-I test. The tests will involve firing more than one missile simultaneously and the tests will be used to measure the capability of the new missiles to carry additional weight. The price of a modern missile like Shaheen-II is 300 million rupees, but Pakistani scientists have produced it indigenously at one-third that price.

—Muhammad Saleh Zafir, "Pakistan Completes Plans To test-Fire Shaheen Missiles, Said 'in a Few Weeks'," *Jang* (Karachi), 26 January 2002; in FBIS Document, SAP20020126000021, 26 January 2002; Hanif Khalid, "Pakistan to test Shaheen Missile if World Indifferent to Indian Missile Test," *Jang* (Karachi), 26 January 2002; in FBIS Document, SAP20020126000021, 26 January 2002.

26 January 2002

Pakistan rules out any tests in response to India's testing of its Agni missile. Pakistan's spokesperson Major General Rashid Qureshi says, "Pakistan is neither in a race with India nor is it going to do anything in reaction to what India did."

—"Roundup: Pakistan 'will not respond to India's missile test'," *Deutsche Presse-Agentur*, 26 January 2002, Politics; in Lexis-Nexis Academic Universe, 28 January 2002, web.lexis-nexis.com.

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22 January 2002

US Ambassador to China Clark Randt calls on China to take more steps to prevent the spread of weapons of mass destruction. Ambassador Randt says, "Our experience to date is that China does not have an effective export control regime for sensitive materials and items." Diplomats say that China reneged on the promise made in November 2000 to stop exporting certain technologies and has reportedly exported missile technologies to Pakistan.

—Joe Leahy, "U.S. Warns China Over Weapons of Mass Destruction," *Financial Times* (London), 22 January 2002, p. 6; in Lexis-Nexis Academic Universe, 21 January 2002, web.lexis-nexis.com.

14 January 2002

According to US intelligence officials Pakistan is building missile launch sites along the border with India. The launch sites are being constructed for the short-range M-11 missiles (Hatf missiles) that are being taken out of storage and beginning to be deployed. US officials describe the launch site construction to be concrete areas where mobile launchers will be stored. Pakistan is building five new launch sites along its eastern border and US intelligence agencies have identified the location of three of those five sites. US officials also spotted a convoy of 95 trucks at the Sargodha missile storage facility; the trucks were believed to be carrying missiles to northern parts of the country. Other intelligence reports reveal that Pakistan is preparing to transport additional M-11 missiles from the southern to the northeastern parts of the country.

—Bill Gertz, "Pakistan Builds Missile Sites Near Border With India; Bush Asks Nations to Ease Tensions," *Washington Times*, p. A1; in Lexis-Nexis Academic Universe, 14 January 2002, web.lexis-nexis.com.

12 January 2002

Highly placed Indian sources say that Pakistan has initiated a fast-track program for missile production at the Fatehjung missile factory near Islamabad that was built with Chinese assistance. Sources say that the missile factory has produced eight Hatf-I, Hatf-II, and Hatf-III missiles in the past 18 months. According to the Indian sources, Chinese technicians and experts are working on guidance and control systems, solid fuel, and M-4X missile variants supplied by China. The sources say that Pakistan currently possesses 110 Hatf-I, 90 Hatf-II, six Shaheen-I, and two Shaheen-II missiles. Pakistan also possesses 12 to 15 small to large missile launchers.

—"Pak Enhancing Nuke carrying Capacities," Press Trust of India, 12 January 2002, Nationwide International News; in Lexis-Nexis Academic Universe, 9 January 2002, web.lexis-nexis.com.

10 January 2002

A US National Intelligence Estimate (NIE) report indicates that in the event of war with India, Pakistan's goal is to strike as many Indian targets as possible with nuclear tipped missiles. The NIE reports that foreign assistance played a critical role in Pakistan's solid-propellant missile acquisition and development program. The NIE predicts that Pakistan will continue with its ballistic missile program until it achieves the capability to strike at a large number of Indian targets.

—"Pak Goal to be Able to Strike Large Number of Targets in India," Press Trust of India, 10 January 2002, Nationwide International News; in Lexis-Nexis Academic Universe, 10 January 2002, web.lexis-nexis.com.

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9 January 2002

China sends a range of military hardware including missile systems to Pakistan to help Pakistan face India's buildup along the border. A senior Pakistani military official says that China has helped to reinforce the country's missile capability. However, Pakistani Foreign Ministry spokesperson Aziz Khan denies receiving any shipment of arms from China.

—Zahid Huaasin, "Shiploads of Chinese Arms 'Sent to Pakistan'," *The Times* (London), 9 January 2002, Overseas News; in Lexis-Nexis Academic Universe, 9 January 2002, web.lexis-nexis.com.

8 January 2002

A US Central Intelligence Agency (CIA) report states that China provided considerable assistance to Pakistan's ballistic missile program in 2000 that enabled Pakistan to start serial production of short-range ballistic missiles like Shaheen-I and Haider-I. The CIA report also states that Pakistan acquired dual-use equipment and materials from other sources in Western Europe. The report says that Pakistan needs Chinese assistance for producing the two-stage Shaheen-II medium-range ballistic missile. In addition, certain contacts exist between Chinese entities and Pakistani entities involved in nuclear weapons development, in spite of China's pledge in May 1996 to stop such assistance.

—"CIA Smells China Role in Islamabad's Missile Program," *The Statesman* (Calcutta), 9 January 2002; in Lexis-Nexis Academic Universe, 8 January 2002, web.lexis-nexis.com; Anwar Iqbal, "CIA: India, Pakistan Still Pursuing Nukes," United press International, 8 January 2002; in Lexis-Nexis Academic Universe, 9 January 2002, web.lexis-nexis.com.

Early January 2002

In response to India's reported deployment of Agni missiles, Pakistan deploys Ghauri missiles along the border targeting New Delhi. The nuclear command structure is decentralized to enable Pakistani corps commanders launch the missiles. India deploys the Agni missiles at Kala Dongar, Dalia, Lakhpat, Masooyee, and Thard villages in the Rann of Kutch sector, across the border from the Pakistani province of Sind.

—"Pakistan Daily Reports Commanders Authorized to Order Missile Firing," BBC Monitoring International Reports, 7 January 2002; in Lexis-Nexis Academic Universe, 7 January 2002, web.lexis-nexis.com.

2001

1 July-31 December 2001

The US Central Intelligence Agency (CIA) reports that Chinese entities have provided considerable assistance to Pakistan's ballistic missile program during the past six months. As a result, "with Chinese entity assistance, Pakistan is moving toward serial production of solid-propellant SRBMs [short-range ballistic missiles], such as the Shaheen I and Haider I." The report also hints at program delays in the Haider I ballistic missile program, which is now expected to be tested in 2002. Further, "Pakistan needs continued Chinese assistance to support development of the two-stage Shaheen II MRBM [medium-range ballistic missile]. The report also notes that during the second half of 2001, North Korea "continued to export significant ballistic missile related equipment, components, materials, and technical expertise to...South Asia..."

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—"Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions," Central Intelligence Agency, 1 January-30 June 2001, www.cia.gov.

23 August 2001

Officials from the United States and China meet to discuss suspected exports of Chinese missile technology to countries thought to include Iran and Pakistan. The talks are held under the bilateral "non-proliferation arrangement" agreed upon in 2000 to discuss US concerns about China's "mixed" record under the agreement. China has strongly denied US claims that it has shipped missile parts to Pakistan and thus has violated the agreement.

—"China, US hold talks on missile non-proliferation," *Deutsche Press-Agentur*, 23 August 2001, in Lexis-Nexis, www.lexis-nexis.com.

21 August 2001

According to Deputy Director of the US Central Intelligence Agency (CIA) John E. McLaughlin, North Korea has transferred Nodong ballistic missiles to Pakistan, and the technology to Iran for its Shehab 3, which is supposedly a "direct descendent of the Nodong." McLaughlin also says that Pyongyang is "still selling missile-related equipment, components, materials, and technical expertise to the Middle East, South Asia, and North Africa."

—John E. McLaughlin, "Remarks of the Deputy Director of Central Intelligence John E. McLaughlin at the 4th Annual Space and Missile Defense Conference," 21 August 2001, www.cia.gov.

6 August 2001

According to US intelligence officials, China has sent a dozen shipments of missile components to Pakistan since the beginning of the year. The China National Machinery and Equipment Import and Export Corporation, a state-run company, supplied parts for Shaheen I and Shaheen II missiles. The transfer of components is in contradiction to Beijing's undertaking not to support foreign nuclear missile programs. Shaheen I and Shaheen II are capable of carrying nuclear warheads.

—"China supplied missile parts to Pak," *Hindu* (Chennai), 7 August 2001; in Lexis-Nexis Academic Universe, 7 August 2001, web.lexis-nexis.com.

July 2001

US intelligence agencies track a Pakistani C-130 cargo aircraft as it lands in North Korea. The aircraft takes a shipment of ballistic missile parts for Pakistan's missile program. US officials are doubtful whether the cargo plane brought nuclear-related goods to North Korea.

—David E. Sanger, "Alliances: In North Korea and Pakistan, Deep Roots of Nuclear Barter," *New York Times*, 24 November 2002, p. 1; in Lexis-Nexis Academic Universe, 24 November 2001, web.lexis-nexis.com.

1 January-30 June 2001

The US Central Intelligence Agency (CIA) reports that "Chinese entities continued to provide significant assistance to Pakistan's ballistic missile program" during the first half of 2001. Further, "Pakistan is moving toward serial production of solid-propellant SRBMs [short-range ballistic missiles], such as the Haider I and Shaheen I." However, "Pakistan needs Chinese assistance to support the development of the two-stage Shaheen II MRBM [medium-

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range ballistic missile]." The report notes that in "November 2000, China committed not to assist, in any way, any country in the development of ballistic missiles that could be used to deliver nuclear weapons, and to enact at an early date a comprehensive missile-related export control system."

—"Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions," Central Intelligence Agency, 1 January-30 June 2001, www.cia.gov.

25 June 2001

Nuclear Fuel says that reports in early June 2001 about possible cooperation in the nuclear field between North Korea and Pakistan are erroneous. US Deputy Secretary of State Richard Armitage was cited as the source of the earlier reports, but a "US nonproliferation official" said last week that the evidence points to cooperation in the area of solid-fueled missiles. Apparently, there is no indication of Pakistan assisting North Korea with uranium enrichment.

—Mark Hibbs, "North Korean-Pakistan Collusion Said Limited to KRL and Missiles," *NuclearFuel*, vol. 26, no. 13, 25 June 2001, www.mhenergy.com.

1 June 2001

The *Financial Times* reports that US officials are concerned about contacts between North Korean officials and senior figures in the Pakistani nuclear program. There is also evidence that North Koreans have visited a nuclear weapons site in Pakistan. Some speculate that North Korea might obtain nuclear weapons technology in exchange for ballistic missile technology. US Deputy Secretary of State, Richard Armitage, says US concerns are centered "on people who were employed by the nuclear agency and have retired."

—Stephen Fidler and Edward Luce, "US Fears North Korea Could Gain Nuclear Capability Through Pakistan," *Financial Times* (London), 1 June 2001, Front Page-First Section, p. 1; in Lexis-Nexis Academic Universe, 31 May 2001, web.lexis-nexis.com.

1 May 2001

US satellites detect a shipment of missile components on the China-Pakistan border.

—"China supplied missile parts to Pak," *Hindu* (Chennai), 7 August 2001; in Lexis-Nexis Academic Universe, 7 August 2001, web.lexis-nexis.com.

28 April 2001

The Chairman of the Space and Upper Atmosphere Research Commission (SUPRCO) Chairman Dr. Majeed Sheikh says Pakistan's Badr II satellite will be launched in one or two months from Bekanor with the help of the Russian Space Agency. He says the launch was delayed due to some fault in the Russian satellite. M. Dr. Sheikh says Pakistan will develop its own satellite launch vehicle (SLV) program soon.

—"Pakistan to develop indigenous satellite launch vehicle programme, says SUPARCO chief," *PakNews* (Internet Edition), 28 April 2001; www.paknews.org.

1 April 2001

According to Pakistani sources, the Shaheen II's range has been increased to 4,000km and a possible date for testing Shaheen II is being finalized. Testing the missile will require the target location to be placed in the Indian

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Ocean or the Arabian Sea.

—"Pakistan Shaheen-II Missile Range Increased to 4,000 KM, India's 'Unreliable'," *Jang* (Karachi), 1 April 2001; in FBIS Document SAP20010402000032, 2 April 2001.

12 March 2001

According to a news report, Pakistan will test a very powerful nuclear missile called Haider. According to the report, Haider has a range of over 2,500km and has twice the nuclear payload capacity of other missiles that Pakistan currently possesses. Quoting sources, the report says the missile is in the final stages of completion and is expected to be tested in April.

—"Pakistan: April test expected for nuclear payload-capable long-range missile," *Jasarat* (Islamabad), 12 March 2001; in FBIS Document SAP20010312000013, 12 March 2001.

10 March 2001

Senior Pakistani nuclear scientist Dr A.Q. Khan says that Pakistani scientists are developing the nation's first Satellite Launch Vehicle (SLV). The project is being undertaken by the Space and Upper Atmosphere Research Commission (SUPARCO).

—"Qadeer Khan: Pakistani scientists active in building Satellite Launch Vehicle," *Dawn* (Karachi), 11 March 2001; in FBIS Document SAP20010311000032, 11 March 2001.

26 January 2001

Pakistan claims that the medium-range Shaheen I and the intermediate-range Shaheen II ballistic missiles are in "regular production" and have been inducted into the Army. A Pakistani official claims that the Shaheen missiles are highly stable. The official further suggests that Pakistan's growing missile capability precludes the need to conduct multiple flight tests and indicates that cold tests are sufficient.

—"Pak. claims Shaheen into army," *Hindu* (Chennai), 27 January 2001; in Lexis-Nexis Academic Universe, 27 January 2001, web.lexis-nexis.com.

4 January 2001

A Pakistani news agency reports Pakistan will test a 300km-range ballistic missile, Haider I, in the first week of March. The missile will later be displayed at the joint services parade on Pakistan day on 23 March. The missile is solid fueled and is nuclear capable. The missile's accuracy is claimed to be 100 percent compared to that of the Shaheen's. The news agency claims that the missile was manufactured with indigenous resources, skills, and technology. The news agency, quoting official sources, says that the Haider I's range can be increased with certain modifications and claims that its storage would be easy.

—"Pak. to test new missile in March," *Hindu* (Chennai), 5 January 2001; in Lexis-Nexis Academic Universe, 5 January 2001, web.lexis-nexis.com.

2000

1 July-31 December 2000

The US Central Intelligence Agency (CIA) reports that the Chinese entities continued to provide "significant

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assistance" to Pakistan's ballistic missile program during the latter half of the year 2000. Such assistance has been critical to enable Pakistan move "toward serial production of solid-propellant SRBMs [short-range ballistic missiles] such as Shaheen I and Haider I. Pakistan tested the Shaheen-I in 1999 and plans to flight-test the Haider I in 2001. Successful development of the two-stage Shaheen II MRBM [medium-range ballistic missile] will require continued Chinese assistance or assistance from other potential sources." The report reiterates the US government view that China continues to "take a very narrow interpretation of its nonproliferation commitments with the United States. In the case of missile-related transfers, Beijing has on several occasions pledged not to sell Missile Technology Control Regime (MTCR) Category I systems but has not recognized the regime's key technology annex." The report also notes that North Korea continues to export "significant ballistic missile-related equipment, components, materials, and technical expertise to countries in...South Asia..."

—"Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions," Central Intelligence Agency, 1 July-31 December 2000, www.cia.gov.

21 November 2000

US and Chinese officials announce an agreement on missile technology exports under which Beijing will discontinue selling ballistic missile technology to Pakistan and Iran and publish guidelines for future export controls in this area. In turn, the US State Department announces that it will waive sanctions on Chinese entities for the past sales of missile technologies to entities in Iran and Pakistan. As a result of the new agreement, the Chinese foreign ministry states, "China is opposed to the proliferation of weapons of mass destruction....China has no intention of assisting, in any way, any country in the development of ballistic missiles that can be used to deliver nuclear weapons (i.e., missiles capable of delivering a payload of at least 500kg to a distance of at least 300km). —"China to discontinue Missile sales to Iran, Pakistan," United Press International, 21 November 2000, in Lexis-Nexis, www.lexis-nexis.com; "People's Republic of China Foreign Ministry Spokesperson's Statement," 21 November 2000, www.nti.org.

10 November 2000

Pakistan successfully completes the first cold test of a new short-range ballistic missile. The Urdu daily, *Jang*, reports that the missile's motor engine was successfully tested recently at a facility located in the suburbs of Islamabad.

—"Pak. missile test," *Hindu* (Chennai), 11 November 2000; in Lexis-Nexis Academic Universe, 12 November 2000, web.lexis-nexis.com.

27 September 2000

Pakistan's top nuclear scientist, Dr. A.Q. Khan, says Pakistan is capable of striking all major Indian cities and claims that Pakistan has a "stockpile of missiles and atom bombs." Khan claims that the 1,550-mile-range Shaheen II is ready and awaiting the government's clearance for testing. Khan's remarks follow a claim by the Indian defense minister George Fernandes that India might test its medium-range missile Agni III ballistic missile "sooner than expected." US intelligence and military sources indicate that Pakistan's nuclear and missile weapons' stockpile is "substantially larger" than India's arsenal, due to the help received from Chinese and North Korean entities.

—Luke Harding and Rory McCarthy, "Nuclear rivals to test fire missiles," *Guardian* (London), 27 September 2000, *Guardian Foreign Pages*, p. 18; in Lexis-Nexis Academic Universe, 27 September 2000, web.lexis-nexis.com.

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21 September 2000

Pakistan reportedly begins serial production of Shaheen I missile with its induction into the Army. A senior Pakistani government official tells *News* that mass production of Shaheen has begun. The missile was tested in April 1999.

—"Shaheen-I production," *Hindu* (Chennai), 22 September 2000; in Lexis-Nexis Academic Universe, 22 September 2000, web.lexis-nexis.com.

16 September 2000

Senior Pakistani nuclear scientist Dr Samar Mubarakmand claims that Pakistan has developed Shaheen II, a multi-stage ballistic missile with a range of 2,500km. He says the missile is ready to be tested.

—"Pakistan's 'Multi-Stage' 2,500 KM Range 'Shaheen-II' Missile Ready For Testing," *Dawn* (Karachi), 17 September 2000; in FBIS Document SAP20000917000011, 17 September 2000.

23 August 2000

Pakistan rejects reports that mysterious flying objects seen over western Baluchistan province last week were missile tests. Pakistan terms the reports as "baseless and ridiculous." Witnesses say the objects appeared to be flying in formation with trailing plumes and "looked like missiles." A military spokesperson rules out the possibility of weapons and suggests that the sighted objects might have been comet fragments.

—"Not missile tests: Pak," *Hindu* (Chennai), 24 August 2000; in Lexis-Nexis Academic Universe, 24 August 2000, web.lexis-nexis.com.

10 August 2000

In an interview with *Kyodo News*, Pakistani Foreign Minister Abdul Sattar admits that cooperation on missile technology exists between China and Pakistan. Sattar is quoted as saying, "There is no international regime that prohibits cooperation within MTCR [Missile Technology Control Regime]. I simply want to say that cooperation within MTCR is permissible by international law." Sattar admits that China supplied Pakistan a "small number of tactical missiles, which means short-range missiles," in the 1990s.

—Shahid-ur-Rehman, "Sattar Says Pakistan, China Cooperate on Missiles," *Kyodo News* (Tokyo), 10 August 2000; in FBIS Document JPP20000810000074, 10 August 2000.

10 August 2000

Pakistani foreign office spokesperson Riaz Mohammed Khan responds to allegations over possible missile assistance and cooperation from China by saying, "Pakistan and China do not have cooperation in building long-range missiles....the same situation applies to North Korea as far as we are concerned." Riaz adds, "Pakistan has not received anything from China that is inconsistent with China's international commitments or obligations, including the guidelines that they voluntarily follow relating to the MTCR [Missile Technology Control Regime]."

—NBC's Robert Winderm and contributions from Reuters, "Pakistan Denies China Missile Link," MSNBC, 10 August 2000, www.msnbc.com.

9 August 2000

The Central Intelligence Agency's (CIA) semi-annual unclassified report to Congress on arms proliferation

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concludes, "Chinese missile-related technical assistance to Pakistan increased during this reporting period." The report goes on to state that "we cannot preclude" that contact with Pakistani nuclear weapons officials were ongoing.

—Bill Gertz, "Pakistan Gets More Chinese Weapons," *Washington Times*, 9 August 2000, p. 1.

5 July 2000

The Chinese government denies helping Pakistan's nuclear and missile programs and says it has responded favorably to international requests to limit nuclear arms buildup in South Asia. Chinese foreign ministry spokesperson, Sun Yuxi, terms the allegations of Chinese support to Pakistan as "totally unfounded and with ulterior motives."

—"Beijing denies claims of Pakistan arms aid," *Los Angeles Times*, 5 July 2000, p. 9, Foreign Desk; in Lexis-Nexis Academic Universe, 5 July 2000, web.lexis-nexis.com.

3 July 2000

Pakistani Foreign Minister Abdul Sattar dismisses reports alleging Chinese assistance to Pakistan's missile program.

—"Beijing denies claims of Pakistan arms aid," *Los Angeles Times*, 5 July 2000, p. 9, Foreign Desk; in Lexis-Nexis Academic Universe, 5 July 2000, web.lexis-nexis.com.

2 July 2000

The *New York Times* citing classified briefings to the US Congress reports that China has shipped specialty steels, missile guidance systems, and provided missile-related technical assistance to Pakistan. China is also reportedly providing assisting Pakistan with its newest missile plant.

—David E. Sanger and Eric Schmitt, "Reports Say China is Aiding Pakistan on Missile Project," *New York Times*, 2 July 2000, www.nytimes.com.

1 July 2000

A senior Clinton administration official says, "China's overall record in the nonproliferation area is very good." But the official expresses concern in the missile area, especially in the case of Pakistan.

—Thomas E. Ricks, "China still Aiding Pakistan's Missile Program, Reports Indicate," *Washington Post*, 2 July 2000, p. A07; in Lexis-Nexis Academic Universe, 2 July 2000, web.lexis-nexis.com.

28 June 2000

The Pakistani government rejects reports that China is assisting Pakistan in the construction of a new missile plant. A statement issued by the Pakistani embassy in Washington asserts, "These reports are completely baseless. It is also regrettable that these false reports have been used to mislead the US Senate and criticize Pakistan."

—"Pakistan Rejects Reports of Chinese Missile Plant," *Inside China Today* (Prague), 29 June 2000, www.insidechina.com.

Last Week of June 2000

US intelligence reports suggest continued Chinese assistance to Pakistan's long-range missile program. Several members of Congress are briefed about China's sustained supply of technical expertise to Pakistan. Persons familiar with the intelligence reports say that China is providing specialty materials and technical expertise rather

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than complete missile systems. The reports describe the shipment of specialty steel, guidance systems, and technical expertise to Pakistan. Several officials point to the sighting of Chinese experts around Pakistan's most recent missile factory partially based on Chinese design. US officials also identify continued Chinese shipments to Pakistan during the past 8 to 18 months. John D. Holum, a US State department arms control official, will visit China in the first week of July to communicate the US government's concerns. A senior US general describes China's assistance to Pakistan as "a longer-range issue" that continues to happen notwithstanding President Jiang Zemin's assurances to President Clinton. The US general adds "we're not sure how much is going on that the Chinese hierarchy knows about."

—Thomas E. Ricks, "China still Aiding Pakistan's Missile Program, Reports Indicate," *Washington Post*, 2 July 2000, p. A07; in Lexis-Nexis Academic Universe, 2 July 2000, web.lexis-nexis.com; David E. Sanger and Eric Schmitt, "Reports say China is aiding Pakistan on Missile Project," *New York Times*, 2 July 2000, Section 1, p. 1; in Lexis-Nexis Academic Universe, 2 July 2000, web.lexis-nexis.com.

22 June 2000

US Assistant Secretary of State for Nonproliferation Robert Einhorn and a small US delegation secretly visit Beijing to secure China's commitment not to export missile components or technology to Pakistan and Iran.

—"Secretive US Visit to Beijing," *Far Eastern Economic Review* (Hong Kong), 22 June 2000.

20 June 2000

Pakistan denies reports that it has received help for its missile program from North Korea. The *Sankei Shimbun* reported on 19 June 2000 that 15 North Korean personnel, including 10 engineers, would return to Pyongyang soon from Pakistan.

—"News From Our World Resources: 'No Korean Help' in Missile Programmes," *Gulf News* (Dubai), 21 June 2000, in Lexis-Nexis Academic Universe, web.lexis-nexis.com; "Pakistan Denies using N. Koreans on Missile Programme," Agence France Presse, 20 June 2000, in Lexis-Nexis Academic Universe, web.lexis-nexis.com.

19 June 2000

Japan's *Sankei Shimbun* reports that 15 North Koreans, including 10 engineers, will return to Pyongyang from Pakistan in a few days. The North Koreans are reported to have been helping Pakistan with its missile development program.

—"N. Korean Missile Experts to Return Home from Pakistan: Report," Agence France Presse, 19 June 2000; in Lexis-Nexis Academic Universe, web.lexis-nexis.com.

18 May 2000

US Senator Jesse Helms agrees to approve the appointment of Robert Einhorn as Assistant Secretary of State for Nonproliferation Affairs in exchange for the Clinton administration's forming of a task force to determine whether the United States ought to impose sanctions on China for the latter's 1992 sale of M-11 ballistic missiles to Pakistan. The task force will have a six-month deadline to complete its task.

—Nyan Chanda and Susan V. Lawrence, "US-China Relations: Final Deadline," *Far Eastern Economic Review* (Hong Kong), 18 May 2000, www.feer.com.

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23 March 2000

Pakistan displays the 2,500km-range Shaheen II (Hatf VI) surface-to-surface missile during its national day parade. The Shaheen I is suspected to be the North Korean Nodong II or its variant. A Ghauri missile without any specification of the version is also displayed.

—Amit Baruah, "Pak displays Shaheen," *Hindu* (Chennai), 24 March 2000; in Lexis-Nexis Academic Universe, 24 March 2000, web.lexis-nexis.com.

24 February 2000

The head of the German Federal Intelligence Service (BND), August Hanning, reports that Iran, as well as Iraq, Pakistan, and India, purchase missile components through subcontractors and "bogus firms" in Germany.

—Stephen Kornelius, "BND Report Views Iran, Iraq Missile Threat," *Sueddeutsche Zeitung* (Munich), 24 February 2000; in "Everybody is Building Missiles--BND sees Europe Endangered By Iraq's and Iran's Arms Projects," FBIS Document EUP20000223000461, 23 February 2000.

24 February 2000

A report by the German Federal Intelligence Service (Bundesnachrichtendienst-BND) concludes that the illegal export of material for weapons of mass destruction (WMD) in "rogue" nations is difficult to control. BND considers North Korea the most active designer and exporter of carrier missiles, and the BND report estimates that North Korea will attempt to export its new missile technology using the international acquisition network that it has already established. Over this network, North Korea is said to acquire missiles not only for its own needs, but also for Pakistan, Syria, and Iran. North Korea is said to use this business as a source of foreign exchange.

—"Schwer zu Konrollieren (Difficult to Control)," *Frankfurter Allgemeine Zeitung* (Frankfurt), 24 February 2000.

7 February 2000

Pakistan announces its successful test-firing of the Hatf-I surface-to-surface short-range ballistic missile. A Pakistani government statement says that prior notification of the test was provided to all the neighboring countries. The statement mentions that all design parameters of the missile have been validated and terms the test as a sequel to a series of tests conducted in the previous years. The statement says the new design facilitates greater payload, improved accuracy and allows successful destruction of targets up to 100km using a variety of warheads. The statement adds, "Hatf-I is an indigenous effort and contributes significantly to Pakistan's national security and deterrence strategy."

—Amit Baruah, "Pak. test fires Hatf-I missile," *Hindu* (Chennai), 8 February 2000; in Lexis-Nexis Academic Universe, 8 February 2000, web.lexis-nexis.com.

2 February 2000

US Central Intelligence Agency (CIA) Director George Tenet tells the Senate Select Committee on Intelligence, "the development of missiles and weapons of mass destruction in South Asia has led to more advanced systems, and both sides [India and Pakistan] have begun to establish...doctrines and tactics to use these weapons."

—Statement by George J. Tenet, Director Central Intelligence Agency, "The Worldwide Threat in 2000: Global Realities of Our National Security," Testimony before Senate Select Committee on Intelligence, 2 February 2000.

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February 2000

According to scholar James Cotton, US specialists maintain that North Korea is developing a longer-range version of the Taepodong missile, which could strike targets in the continental United States and much of Asia by 2003. North Korea has exported about 400 Scud-type missiles to Iran, Syria, and Pakistan. Cotton asserts that at present, despite having a missile development program, North Korea does not have the capability to arm its missiles with nuclear warheads.

—James Cotton, "North Korea Nuclear and Missile Nonproliferation and Regional Security," Australia and Security Cooperation in the Asia Pacific (Aus-CSCAP) Newsletter No. 9, February 2000, aus-cscap.anu.edu.au.

2000

Top Pakistani nuclear scientist Abdul Qadir Khan, popularly known as the father of Pakistan's nuclear bomb, is sacked after US officials inform Pakistan that certain scientists are involved in nuclear cooperation with North Korea.

—Roland Watson and Zahid Hussain, "US attacks N. Korea's 'suppliers': Russia, China and Pakistan accused of aiding rogue state's nuclear program," *Ottawa Citizen* (Ottawa), 19 October 2002, News, p. A9; in Lexis-Nexis Academic Universe, 19 October 2002, web.lexis-nexis.com.

1999

15 December 1999

In a statement to parliament on 15 December 1999, Indian Foreign Minister Jaswant Singh said that China and North Korea were helping Pakistan with its missile program. According to Singh, North Korea is helping with missile technology, missile components, and liquid fuel, and that Pakistan's Ghauri missile is a copy of North Korea's No-dong ballistic missile. Singh also stated that China supplied Pakistan with M-11 missiles in addition to components and technology related to M-11 production.

—"PRC, DPRK Missile Sales to Pakistan," NapsNet Daily Report, 15 December 1999, www.nautilus.org; "Pakistan Getting Missile Technology from China, North Korea: Minister," AFP, 15 December 1999.

28 September 1999

During a visit to Sargodha in late September 1999, Pakistani nuclear scientist Samar Mubarakmand said that Pakistan has evidence that India would have attacked it if it had not tested nuclear weapons on 28 May 1998. Mubarakmand said that India had plans to attack Pakistan's nuclear installations on 27 May 1999 and Indian aircraft were ready at the airport. He said the Shaheen-2 ballistic missile is ready and will be tested before the end of this century.

—"Pakistan to test Shaheen-II missile before end of 1999," Lexis-Nexis Academic Universe, 28 September 1999, web.lexis-nexis.com/universe; Al-Akhbar (Islamabad), 27 September 1999, pp.1,7.

27 September 1999

Pakistan's scientists have created a powerful engine for the Ghauri-3 missile that has a range of 3,000km [this is likely a calculation based upon the engine test, as there are no indications the Ghauri-3 has had a test flight--ed.].

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The article reported that the Ghauri-3 will be tested on 29 September 1999. The article also stated that the new missile was created indigenously, and has been tested successfully before with a range of 2,700 km.

—"Pakistan reportedly about to test Ghauri-III missile," Lexis-Nexis Academic Universe, 27 September 1999, web.lexis-nexis.com/univers; Ausaf, (Islamabad), 27 September 1999, pp.1, 7.

3 September 1999

On 2 September 1999, the Pakistan Air Force (PAF) had its "roll-out ceremony" for its Crotale 4000 surface-to-air missile with a range of 30km. The Crotale 4000 is an upgraded version of the 20km-range Crotale 2000. A senior official said that Pakistan upgraded the missiles indigenously for less than half what they would have paid a French contractor.

—Shakil Shaikh, "PAF upgrades Crotale missiles indigenously," The News (Islamabad), 3 September 1999, www.jang.com.pk.

30 August 1999

In late August 1999, Pakistani defense officials said that Pakistan was preparing to test the Unza-3 surface-to-air missile (SAM). The Unza-3 will have an active 7km range, extendable up to 9km. The Unza-1 and Unza-2 SAMs have ranges of 4.5km and 5km, respectively. The defense official said, "We have deployed the existing Unza range [Unza-1 and Unza-2] along the border with India to avert another Badin-like incident. The deployment decision was made after a Pakistani aircraft maritime patrol was shot down [10 August 1999, near Badin in the Rann of Kutch]."

The defense official said that the Unza-3 test would be conducted some time in September 1999 and that A.Q. Khan Research Laboratories in Kahuta is making arrangements for the test.

—"All set for Unza-III test," Frontier Post, 30 August 1999, frontierpost.com.pk; "Pak develops advanced version of Unza missile," Hindustan Times, 31 August 1999, www.hindustantimes.com.

27 August 1999

Addressing a conference on 26 August 1999, Pakistani scientist Abdul Qadeer Khan said: "It will take just five minutes for Ghauri [Ghauri intermediate- range ballistic missile (IRBM)] to reach New Delhi from Islamabad and also the same time for it to reach Bombay from Karachi." He said that it was fear of the Ghauri that "prevented India from opening other war fronts against Pakistan during the Kargil crisis." Khan said that development of the Ghauri at A.Q. Khan Research Laboratories in Kahuta was "no less than a miracle." He said that A.Q. Khan Research Laboratories had been working to develop a "delivery system that could give a befitting response to the enemy within five to 10 minutes." Khan said that Pakistan was a peace-loving country, but that "weakness always invites aggression and nuclear capability is vital for us to deter aggression."

—"Indian cities five minutes away from Ghauri strikes: Dr Qadeer," The News (Islamabad), 27 August 1999, www.jang.com.pk; "Indian cities five minutes away from Ghauri strikes: Dr Qadeer," Pakistan News Service, 27 August 1999, www.paknews.org; "Indian cities five minutes away from Ghauri strikes: Dr Qadeer," Frontier Post (Islamabad), 27 August 1999, frontierpost.com.pk.

27 August 1999

In late August 1999, Pakistani scientist Samar Mubarakmand said that Pakistan's missiles "are not on par but better than India's." He said that there is a "marked difference" between India's and Pakistan's missiles and that Pakistan

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has overtaken India in missile-making. Mubarakmand asserted, "Pakistan's defense is impregnable and the enemy [India] will now think a hundred times before attacking Pakistan." Mubarakmand said that Pakistan designed its first nuclear bomb in 1983, and between 1983 and 1995 made six different designs "in pursuit of the best." All of the designs were cold-tested. The sixth test at Kharan was "very important for Pakistan because it was the latest design of all of Pakistan's bombs.... The bomb was so powerful that it created a huge hill at a distance of a few hundred paces." He said that of the 1,500 nuclear tests carried out the world over, Pakistan's tests at Chaghi on 28 May 1998 were "the best and most beautiful."

—"Scientist Boasts Pakistan's Missiles Better Than India's," FBIS Document FTS19990827000277, 27 August 1999; Khabrain (Islamabad), 27 August 1999, pp.3,10.

10 August 1999

Speaking on Voice of America (VoA), Pakistani Foreign Minister Sartaj Aziz said that Pakistan was monitoring India's missile development program closely and is prepared to respond to new developments. He said that Pakistan has its own, "deterrence program" and wants missile deterrence like that of its nuclear deterrence. He said that Pakistan had proposed a strategic restraint regime to India to prevent misunderstandings between the two countries. On the question of signing the Comprehensive Test Ban Treaty (CTBT), Aziz said that Pakistan was prepared to sign the CTBT in a, "pressure and sanction-free environment."

—"Pakistan to respond to Indian missile plan: FM." Dawn, 10 August 1999, www.dawn.com.

29 June 1999

Pakistan's scientific community is "unanimous in its belief" that the Pakistani Missile Development Programme (PMDP) is superior to the Indian Missile Development Programme (IMDP) [Note: India's official name for its missile program is the Integrated Guided Missile Development Program (IGMDP)]. The scientists cited India's Agni-2 launch that landed 200km short of its target in the Bay of Bengal. The scientists said that Pakistan's Ghauri-1, Ghauri-2, and Shaheen-1 missiles were tested successfully with "cent per cent [sic] accuracy." One scientist said, "Indians conducted around 16 tests of Prithvi, though the end result was that it still has a big circular error probability [CEP]."

—"Pak Scientists Say Missile Technology Superior to India's," FBIS Document FTS19990629000857, 29 June 1999; The News (Islamabad), 29 June 1999.

25 June 1999

An unnamed top Pakistani government official said on 24 June 1999 that Pakistani scientists were "feverishly working" on advanced versions of the Ghauri and Shaheen ballistic missiles. He said scientists at the Kahuta Research Laboratories (KRL) [now AQ Khan Research Laboratories] were working on the Ghauri-3 ballistic missile, which would have a range of between 2,700km and 3,500km. The Ghauri-3 project, supervised by nuclear scientist Abdul Qadeer Khan, will put the entire territory of India within Pakistan's range. The official said the KRL had successfully tested the missile engine for the Ghauri-3 on 24 June 1999. The Shaheen-2 ballistic missile project, supervised by scientist Samar Mubarakmand of the National Development Complex, is "more than 80 percent" complete. The official said the range of the solid-fuel Shaheen-2 ballistic missile would be greater than India's Agni-2 missile and could be fired by a mobile launcher.

—"Work on advanced versions of Ghauri, Shaheen in full swing," Frontier Post, 25 June 1999, frontierpost.com.pk;

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"Pakistan successfully tests Ghauri-III missile," Ausaf, 24 June 1999, pp.1,5, in Lexis-Nexis Academic Universe, 25 June 1999, web.lexis-nexis.com.

14 May 1999

Indian news reporting credits an unnamed defense magazine with the accusation that Pakistan had developed 10 Ghauri intermediate-range ballistic missiles (IRBM), suspected to be of Chinese design and origin. The Ghauri missile, tested for the second time in April 1999, has a range of 1,500km to 1,900km and a payload of 700kg. Although Chinese and Pakistani officials deny the claims, the presence of 24 Chinese M-11 IRBMs in Pakistan has been rumored since 1995. Pakistan currently deploys the Hatf-I ballistic missile, with a range up to 200km, and the Hatf-2 ballistic missile, with a range up to 300km. Pakistan is also completing development of the 800km range Hatf-3 (Shaheen-I), which is assumed by the unnamed source to be a local copy of the Chinese M-9 missile. —"Pakistan has Chinese Missiles," Indian Express, 14 May 1999, www.expressindia.com.

4 May 1999

After reports that India was preparing to launch another ballistic missile, the Agni-3, retired Pakistani Lt.-General Majid Malik said that "Pakistan would give a befitting response to India's Agni-3 test." He said that if India did not stop the arms race, "it would make South Asia more insecure."
—"Minister Says Pakistan Will Respond to Agni-III," FBIS Document FBIS-FTS19990504001067, 4 May 1999; Khabrian (Islamabad), 4 May 1999, pp. 3, 6.

1 May 1999

Pakistan's Ghauri-2 surface-to-surface missile (SSM) and the Shaheen-1/Hatf-4 SSM, which were tested on 14 April and 15 April 1999 respectively, may be based on North Korean and Chinese missile designs. According to Indian defense analysts, the Ghauri-2 may be based on North Korean designs and the guidance system may have been acquired from China. The Shaheen-1/Hatf-4 was probably based on the Chinese M-9 missile, which has a range of 800km. Analysts suggested that since the Shaheen-1/Hatf-4 was in serial production in mid-1998, it must have been based on a proven design. The Shaheen-1/Hatf-4 may have incorporated technology from the 600-800km range Hatf-3 SSM, which was tested in July 1997. Analysts said the Shaheen-1/Hatf-IV production facility was probably the same facility near Rawalpindi identified by US intelligence in August 1996. The facility was believed to be for the indigenous production of China's M-11 missile. The facility was built with blueprints and equipment provided by China.
— Ben Sheppard, "Pakistan Tests 'Chinese/North Korean-based Missiles'," Jane's Intelligence Review, May 1999, p.3.

30 April 1999

Renowned scientist and member of the Pakistan Atomic Energy Commission (PAEC) Dr. Samar Mubarakmand said that the Shaheen-I surface-to-surface (SSM) missile "can be launched in a short notice of fifteen minutes." Pakistan tested the Shaheen-I in mid-April, in which Mubarakmand said that the missile achieved 100% accuracy.
—"Shaheen Missile Can be Launched in 15 Minutes," FBIS Document FTS19990430000736, 30 April 1999; The Nation (Lahore, internet version), 30 April 1999.

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27 April 1999

According to Pakistani officials, Pakistan has decided to expand its nuclear program. Work on the Shaheen-2 ballistic missile, to be tested in early 2000, and Ghauri ballistic missile tests were intensified. Nuclear technology was allocated the largest amount of funding in the next budget after a defense spending increase. An incentive package for scientists was prepared and a separate budget was fixed for the latest scientific research. The Atomic Energy Commission (AEC) and other associated departments presented their proposals to Prime Minister Nawaz Sharif. Sharif approved the proposal to expand the nuclear program.

— "Pakistan To Continue Nuclear Expansion," FBIS Document FTS19990427000486, 27 April 1999; Sikander Lodhi, Nawa-i-Waqt (Rawalpindi), 27 April 1999, pp.1, 6.

21 April 1999

According to Indian government officials, Pakistan's missile program appeared to be based on procurement rather than research. Indian sources pointed out that Pakistan had no demonstrated expertise in rocket sciences and tested two missiles with varying technologies. Indian officials said that Pakistan's Ghauri-2 and Shaheen-1, tested on 14 April 1999, were similar to their Chinese and North Korean counterparts, the Chinese M-9 and the North Korean Nodong missiles respectively. Indian officials also cited the 'emergency visit' of Samar Mubarakmand, head of the Pakistan Atomic Energy Commission, to China in mid-April 1999 and economic sanctions placed on two North Korean companies by the United States for 'missile technology proliferation activities' as supporting evidence that Pakistan's nuclear program was not indigenous.

— Manvendra Singh, "Pakistan's Missiles May Not Be Pakistani," Indian Express, 21 April 1999, www.expressindia.com.

15 April 1999

Pakistan's successful 14 April 1999 test of its nuclear-capable Ghauri-2 ballistic missile reportedly puts Israel into striking range for the first time. According to experts, however, Pakistan would have to construct a launch site near Chaghi, Pakistan in order to bring all of Israel within the missile's range.

— "Israel Within Ghauri-II Range," FBIS Document FTS19990415000041, 15 April 1999; Pakistan (Islamabad), 15 April 1999, p.1.

15 April 1999

On 15 April 1999 at 0458 GMT, Pakistan tested its Shaheen-1 surface-to-surface missile. The Shaheen-1 has a range of 750km and can carry a nuclear or conventional payload of 1,000kg. The test-launch was conducted at the Sonmiani naval base. Unnamed official Pakistani sources said that a second, more advanced Shaheen missile, with a range of 2,300km, was "ready and waiting to be tested." The test-flight of the Shaheen-1 lasted six minutes. The Pakistan Foreign Ministry issued a statement after the test, indicating that the Shaheen-1 missile test concluded the series of "flight tests, involving solid and liquid rocket motor technologies."

— "Pakistan Conducts Second Nuclear Capable Missile Test," CNN, 15 April 1999, cnn.com; "Pakistan Conducts 2nd Missile Test," New York Times, 15 April 1999.

14 April 1999

Western media sources dispute Pakistan's 14 May 1999 official statement that the Ghauri missile was part of

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Pakistan's indigenous missile program. The reports said that Pakistan had received missile technology from China and North Korea and that the Ghauri missile was a renamed version of the North Korean Nodong missile. Within two weeks of the first test firing of the Ghauri missile on 6 April 1998, the United States placed a two year ban on Kahuta Research Laboratories in Pakistan and the North Korea Mining Development Trading Corporation and its subunits under the MCTR for transferring nuclear and missile technologies. A second version of the Ghauri with an extended range, the Ghauri-2, was test launched on 14 April 1999. According to former US Defense Secretary Donald Rumsfeld's report, Pakistan acquired the Chinese M-11 short-range ballistic missile (SRBM), which has a range of 300km and a payload of 500kg, and may produce its own missile, the Tarmuk, based on the M-11. The M-11 is believed to be the first of the Hatf series which Pakistan test fired in 1997 in response to India's Prithvi missile tests. India's Prithvi missiles have a range of 150-250km.

—"Media Dispute Ghauri As Indigenous," Indian Express, 14 April 1999, www.indian-express.com.

13 April 1999

On 11 April 1999, Pakistani Foreign Minister Sartaj Aziz said the Defense Committee of the Cabinet (DCC) would meet on 13 April or 14 April 1999 to discuss Pakistan's response to India's 11 April 1999 test firing of its Agni-2 intermediate-range ballistic missile (IRBM). The Agni-2 has a range of 2,000km. Aziz said that the DCC would consider all aspects before test-firing one or two of the Shaheen-1, Shaheen-2 or Ghauri-2 missiles.

—"Pakistan Completes Preparations For Missile Test," Pakistan Institute for Air Defence Studies, PIADS Pakistan Defense News Bulletin, April 1999, www.geocities.com.

3 April 1999

Pakistani press reports said that Pakistani Prime Minister Nawaz Sharif was briefed by military officials in early April 1999 on "important matters related to defining the responsibilities of the nuclear command and control system." The report referenced unidentified sources as saying that the briefing given to Sharif "revolved around the handing over the control of defense equipment, including nuclear weapons, to the army." The report also said that the briefing covered Pakistan's "development of the latest missile technology and fresh missile tests."

—"Sharif Briefed on Nuclear Controls, 'Fresh Missile Tests'," FBIS Document FTS19990403000216, 3 April 1999; Pakistan (Islamabad), 3 April 1999, pp.

31 March 1999

Pakistan displayed its Ghauri-2 (Hatf-5) and Hatf-3 ballistic missiles and Shaheen-I (Hatf-4) surface-to-surface missile (SSM) at its Republic Day parade on 23 March 1999. Pakistani Prime Minister Nawaz Sharif said that the Ghauri and Shaheen missile were "necessary to guarantee the country's security." The Ghauri was originally tested on 6 April 1998 with a range of 1,100km. The Ghauri-2 is reported to have a range of 1,500km and it is speculated that ten Ghauri missiles are probably in service in the 47th Artillery Brigade. It has been noted that Pakistan's Ghauri missile is "similar in size, shape, and performance" to North Korea's Nodong missile and Iran's Shehab-3 missile. The precise design of Pakistan's Shaheen missile is reportedly unclear, but is speculated to be a solid-fuelled SSM with a maximum range of 750km. Ground tests were allegedly made in 1997 and 1998. The design of the Shaheen missile appears to be similar to China's M-9 (DF-15) missile, but at 320kg, the Pakistani missile has a smaller payload. The Hatf-3 may be Pakistan's Tarmuk, a solid-fuelled ballistic missile with a range of 750km and a payload of 600kg. The Tarmuk may be based on the Chinese M-9, which has the same payload. Alternatively,

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Pakistan's Hatf-3 may be an indigenously designed missile, using a two-stage missile similar to the Hatf-2 modified to have a larger first-stage solid-fuelled motor assembly.

— Umer Farooq and Duncan Lennox, "Pakistan Parades Missiles," *Jane's Defence Weekly*, 31 March 1999, p. 15.

27 March 1999

Pakistani officials claim that the "Shujaat-2" missile craft was launched on 26 March 1999 from Karachi. The missile craft was allegedly built at the Karachi Shipyard and Engineering Works (KSEW) with Chinese technical assistance, including necessary design and equipment support. Chief of the Naval Staff Admiral Fasih Bukhari said that the Shujaat-2 has "great potential for maritime defense and industrial sectors of Pakistan." He also said that the new missile craft's "optimum utilization could usher socio-economic benefits" to Pakistan. KSEW officials said that the launching of the Shujaat-2 "has taken this strategic national industry into the domain of warship construction."

—"Missile Craft Built with Chinese Help," *Dawn*, 27 March 1999, www.dawn.com.

22 February 1999

During talks in Lahore ending on 21 February 1999, Pakistan Prime Minister Nawaz Sharif and Indian Prime Minister Atal Bihari Vajpayee agreed that Pakistan and India would notify each other of missile tests. Early notification of missile tests is aimed at reducing the risk of sudden nuclear or conventional conflict. The moratorium on nuclear tests was also confirmed at the Lahore talks, and will remain in force unless "some emergency situation endangers the supreme national interests" of either of the states. The prime ministers also agreed to establish a hot line by mid-1999 for mutual consultation to prevent the escalation of military conflict.

—"Pakistan and India Shall Notify Each Other On Missile Tests," *ITAR-TASS*, 22 February 1999.

30 January 1999

Pakistani Prime Minister Nawaz Sharif on 30 January 1999 confirmed for the first time the existence of the Shaheen missile. Sharif, while addressing Army troops, referred to the Ghauri and Shaheen missiles as the "support" that was available to the Army. The Shaheen missile has not been test-fired, however, some analysts agreed that Pakistan planned a test in May 1998.

— Amit Baruah, "Sharif Confirms Development of Shaheen Missile," *The Hindu*, 30 January 1999, www.webpage.com.

30 January 1999

General Pervez Musharraf, Commander of Pakistan's Army, approved on 30 January 1999 Pakistan's decision to test its medium-range ballistic missile Ghauri. He said that the Ghauri's delivery system needed improvements and that testing would make it more reliable. Pakistan first tested the Ghauri in April 1998, since which time Pakistan has also been trying to develop a reliable delivery system.

—"Pakistan Army Chief Favors Missile Test," *Inquisit*, Anwar Iqbal, 30 January 1999, www.inquisit.com.

29 January 1999

The Pakistani Foreign Office declined to comment on 28 January 1999 on reports that Pakistan had canceled plans to test-fire its new extended-range Ghauri ballistic missile. A spokesman for the Foreign Office said that Pakistan was keeping "all options open to take any decision keeping in view security." The new Ghauri missile allegedly has

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an extended range of 1500km.

—"Pakistan Keeps Its Missile Option Open," Pakistan Link, 29 January 1999, www.Pakistanlink.com.

24 January 1999

Pakistan's Prime Minister Nawaz Sharif conducted a meeting on 22 January 1999 that discussed national security and foreign affairs issues. According to unidentified sources, officials at the meeting said that Pakistan's nuclear program was a vital asset, "which ensured lasting peace in the region." In addition, sources reported that another topic of discussion focused on the testing of the Ghauri medium-range ballistic missile. Sources said that the Ghauri might be test-fired before the arrival of US Deputy Secretary of State Strobe Talbott on 1 February.

—"Sharif Holds Meeting, Chances of Ghauri Test by 1 Feb," FBIS-NES-99-024, 24 January 1999; Nawa-i-Waqt (Rawalpindi).

23 January 1999

Pakistani Prime Minister Nawaz Sharif announced on 22 January 1999 that Pakistan postponed testing the Ghauri, a medium-range ballistic missile. The launch was delayed following reports that India would not test an extended version of its medium-range ballistic missile Agni. India was scheduled to test the Agni on 26 January to coincide with India's Republican Day celebrations.

—"Pakistan Postpones Ballistic Missile Test," Dawn, 23 January 1999, www.dawn.com.

17 January 1999

Unnamed Pakistani sources claim that Pakistan will test fire its new medium-range surface-to-surface missile, Shaheen, "anytime in the month of February [1999]." According to Pakistani scientists who worked on the development of the Shaheen, the new missile has a sophisticated guidance package, is able to change course several times during its flight to dodge enemy missiles, and has a range of 700km.

—"Pakistan to Test Shaheen Missile in Mid-February," FBIS-NES-99-018, 18 January 1999; Sardar Rashid, Pakistan, 17 January 1999, p. 1, 7.

17 January 1999

Unnamed Pakistani sources claim that Pakistan will test fire its Ghauri ballistic missile for a second time soon after the "Eidul Fitr" [the end of the Islamic holy month Ramadan, scheduled for 27 January 1999]. The sources said that the missile would be launched from Tilla Jaugian and would carry multiple warheads. The Ghauri will now have an extended range of 1,500km and be capable of carrying a payload of 1,000kg. Pakistani Prime Minister Nawaz Sharif has allegedly given the go-ahead for the test-launch.

—"Pakistan to Test-Fire Missile After Id al-Fitr Festival," FBIS-TAC-99-018, 18 January 1999; The Nation (Islamabad), 17 January 1999, p. 1, 15.

9 January 1999

Unnamed Pakistani sources claimed that Pakistan will test a new "very modern and destructive" missile before the end of Ramadan, due around 20 January 1999. The new missile, Ghauri-2, is an extended version of Pakistan's original Ghauri missile and will have a range of 1,700km. Sources said that because of this, "an emergency has been declared in the Kahuta Research Laboratories (KRL) and all employees have been recalled from leave." Top

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Pakistani nuclear scientist and KRL Director Abdul Qadeer Khan met with Prime Minister Nawaz Sharif on 8 January 1999 and the "green light for the Ghauri launch" has been given.

—"Report: Pakistan to Test Ghauri II Missile Soon," FBIS-NES-99-012, 9 January 1999; Ausaf, 9 January 1999, p. 1.

1998

30 December 1998

Pakistani Chairman of the Kashmir Committee Chaudhry Muhammad Sarwar Khan said on 29 December 1998 that India is trying to "find excuses to continue the arms race" in South Asia that heated up with the May 1998 missile and nuclear tests of India and Pakistan. Sarwar Khan said that it was known that India prepared missiles in the 1980s and conducted a nuclear test in 1994. When Pakistan tested the Ghauri missile in self-defense in mid-1998, India "found another excuse" to test its nuclear devices. While Pakistan has taken steps to ensure security and stability in the region, Sarwar Khan said that India refuses to do the same and in late December 1998 signed a new defense agreement with Russia. He also warned that India is preparing intercontinental ballistic missiles (ICBMs). He said that India's quest to develop and stockpile nuclear weapons and its disregard for a solution on the Kashmir issue would not stop Pakistan from giving moral, political, and diplomatic support to Kashmir.

—"India Out to Find Excuses to Continue Arms Race: Sarwar," NNI, 30 December 1998, www.nni-news.com.

18 December 1998

The United States has urged India and Pakistan on 17 December 1998 to show restraint in further missile development. The Indian government has agreed to halt fissile material production, refused restraint on the development of its research and development capabilities, and disregarded the possibility of any agreement which would place India at a disadvantage.

— Shaheen Sehbai, "Missile Development, tests: US Asks India and Pakistan for Restraint," Dawn, 18 December 1998, www.dawn.com.

17 December 1998

According to the Asian Wall Street Journal, China has been giving technical assistance to Pakistan's M-11 short-range ballistic missile program. However, China is allegedly holding back from selling Pakistan all the machinery for the program. The article says that Pakistan has been using Chinese-supplied blueprints and technology to finish Chinese-designed ballistic missiles, which are nuclear capable and have a range of almost 300km. The Chinese assistance is primarily going to a factory complex in Fatehjung, a northern Pakistani town in Punjab. China is also allegedly teaching Pakistan how to build its own ballistic missiles. China's main motivation in doing this is to bolster Pakistan's defense against India, China's neighbor and a possible strategic threat to China.

— Harvey Stockwin, "China Giving Technical Aid to Pakistani Missile Factory: Report," Times of India, 17 December 1998.

15 December 1998

Top Pakistani nuclear scientist Dr. Abdul Qadeer Khan said that Pakistan's missile program was progressing and that Pakistan would soon test-fire a new missile. Khan also said that Pakistan's missile program was much better

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than India's program.

—"Qadeer: Pakistan 'Soon' to Test Fire New Missile," FBIS-TAC-98-349, 15 December 1998; The Nation (Islamabad), 15 December 1998.

3 December 1998

Pakistani defense scientist Dr. Samar Mubarakmand reported that Pakistan's Shaheen missile is the first missile developed in South Asia that uses solid fuel.

—"Development of the Shaheen Missile," FBIS-NES-98-338, 4 December 1998; Rawalpindi Jang, 3 December 1998, p. 10.

2 December 1998

Pakistani nuclear scientist Samar Mubarakmand announced on 1 December 1998 that due to security reasons, Pakistan's 28 May 1998 nuclear tests were conducted in Ras Koh, not Chagai. Ras Koh is 100km from Chagai. He said that on 27 May 1998, the Pakistani government received information indicating that "jets were ready at Indian airports to hit Pakistan's nuclear sites." That day, the government placed Pakistan on "red alert." Mubarakmand also said that Pakistan had succeeded in building the Shaheen missile, a nuclear capable missile with a range of 750km.

—"Scientist Says Shaheen Missile Ready for Launch," Lexis-Nexis, 2 December 1998; Information Access Company, 2 December 1998.

2 December 1998

Dr. Samar Mubarakmand, head of the missile program at the Pakistan Atomic Energy Commission (PAEC), announced on 2 December 1998 that Pakistan is awaiting government approval to launch its new 750km-range Shaheen missile. The Shaheen is a solid-fueled missile, which Mubarakmand claims is harder to detect than India's liquid-fueled Prithvi missile. Mubarakmand also called that Shaheen the "most modern" missile in the subcontinent.

—"Pakistan Ready to Test Shaheen Missile," Proliferation News, 26 November - 2 December 1998; Reuters, 2 December 1998.

25 November 1998

Top Pakistani nuclear scientist Abdul Qadeer Khan told reporters in late November 1998 that Pakistan had started indigenous serial production of its Ghauri missile. The Ghauri missile is nuclear capable and has a range of 1,500 km, which according to Khan, could be increased to 17,000km [sic - probably means 1,700km] by reducing the payload. Khan also said that the Kahuta Research Laboratories, of which he is the director, has begun making a "night vision" version of its anti-tank guided missiles. Khan reiterated that signing the Comprehensive Test Ban Treaty (CTBT) would not affect Pakistan's nuclear capability.

— Anwar Iqbal, "Pakistan Stockpiling Nuclear Missiles," UPI, 25 November 1998.

25 November 1998

Dr. A.Q. Khan, Pakistan's top nuclear scientist, said on 24 November 1998 that Pakistan had started serial production of the Ghauri missile. The Ghauri is a medium range, surface-to-surface missile with a payload capacity

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of 700kg. Khan was quoted as saying that Pakistan already has "a good stock of these missiles."

—"Pakistan Starts Serial Production of Ghauri," The Nation (Islamabad), 25 November 1998, www.nation.com.pk.

21 October 1998

The Heritage Foundation, a think-tank based in Washington D.C., reported that Pakistan's medium-range ballistic missile Ghauri is actually a renamed version of North Korea's No-dong missile. In addition, the foundation said that Pakistan's estimated 1,200-mile range missile Ghaznavi may be a North Korean Taep'o-dong I missile. Pakistan test-fired the Ghauri missile over land on 6 April 1998. The Heritage Foundation reported that missiles, which are being tested for the first time, are rarely tested over land. Missiles are usually test-fired over water because if a missile malfunctions it will fall into the water rather than strike a populated area. Indian defense analysts said that when Pakistan announced that it had test-fired the Ghauri missile over land they concluded that the launch "involved a missile that had already been tested."

— Dinesh Kumar, "Ghauri Missile Is Renamed N Korean One: US Study," Times of India, 21 October 1998, www.timesofindia.com.

2 October 1998

Japan has urged Pakistan to prepare legislation to control exports of nuclear and missile materials and technology, and sign the Comprehensive Test Ban Treaty before Japan lifts current sanctions against Pakistan. However, Pakistan's ambassador to Japan Touqir Hussain, has denied that Pakistan's ballistic missiles were developed with North Korea's assistance.

—"Japan: Tokyo Presses Pakistan for Export Controls on Missiles," FBIS-EAS-98-275, 2 October 1998; Tokyo Kyodo.

25 September 1998

Japan's Foreign Minister, Masahiko Komura, accused Pakistan of importing ballistic missiles from North Korea. According to Mr. Komura, Japan will continue sanctions against Pakistan until it signs the Comprehensive Test Ban Treaty (CTBT). The Pakistani foreign office has denied that the missile tested in April 1998 was imported and insisted that "the missile was indigenous." Pakistan has declared its intention to sign the CTBT if India agreed to do the same and sanctions on Pakistan's economy were lifted.

— Alexandra Harney and Farhan Bokhari, "Japan Says Pakistan Imported Test Missile," Financial Times, 25 September 1998, p. 1.

16 September 1998

Engineers from Pakistan's Atomic Energy Commission (PAEC) said that a new launching pad has been developed that will launch the new short-range ballistic missile Shaheen. (Reports have cited that the Shaheen is a medium-range ballistic missile with an estimated range of 800km and is capable of carrying a nuclear warhead). The launch pad is mobile and can be re-used several times. The first test of the Shaheen was scheduled to take place in April 1998 but since the launch pad was inoperable the test wasn't conducted. Now that the launch pad is ready, experts said that a Shaheen missile launch should take place "at any time."

—"New Launch Pad Readied For Shaheen Missile Test," FBIS-TAC-98-259, 16 September 1998; Nawa-i-Waqt (Rawalpindi), 15 September 1998.

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14 September 1998

According to US officials, intelligence reports indicate that North Korea has delivered "several shipments of weapons material to Pakistan...including warhead canisters for the new Ghauri medium-range missile." Other reports indicate that Pakistan is trying to develop weapons-grade fuel for nuclear weapons from several facilities. One official said that Pakistan is "currently producing more Ghauri missiles." Former US Defense Secretary Donald Rumsfeld said in a report to Congress that the Ghauri is a variant of the North Korean No-dong ballistic missile with a range of 800 miles. He said that it was believed Pakistan had acquired production facilities for the missile.

The Rumsfeld report said that "Pakistan currently possesses nuclear-capable M-11 [short-range ballistic missiles] acquired from China, and it may produce its own missile, the Tarmuk." According to US intelligence sources, North Korea's Changgwang Sinyong Corp. obtained maraging steel, an ultra-strong corrosion-resistant alloy, from Russia in 1997. In February 1998, Pakistan's Tabani Corp discussed with Russia the purchases of mass spectrometers, lasers, and carbon fiber. According to Gordon Oehler, former head of the CIA Nonproliferation Center, Pakistan has shifted from buying missile systems to producing its own missiles since 1992. He also said the Clinton administration covered up evidence that showed China had sold M-11 short-range missile to Pakistan to avoid placing sanctions under US export laws.

—Bill Gertz, "Pakistan Gets Help with Missile," Washington Times, 14 September 1998, p. 3.

4 September 1998

A senior Pakistan official said that Pakistan has given the two unexploded US Tomahawk cruise missiles to "its scientific organizations which are working on different missile programs, including a cruise missile project." Experts from the Pakistan Army Bomb Disposal Unit have destroyed the warheads, which were attached to the missiles. US Naval officials are not sure what technical advantage the US missiles can give Pakistan and said Pakistan probably does not possess the technical or manufacturing expertise needed to successfully reverse-engineer the missiles. According to a Foreign Office spokesman, US authorities have made no attempts to examine the missiles.

— Umer Farooq, "Pakistan Hands over US Missiles to Experts," The Nation (Lahore), 4 September 1998, www.nation.com.pk.

3 September 1998

Pakistan's Foreign Ministry, in protest of India's 2 September 1998 test firing of the Akash surface to air missile (SAM), warned India that such a missile program could "provoke a new arms race in South Asia." Pakistani officials have repeatedly voiced concern over the security implications of India's short and medium ballistic missile programs.

—"Pakistan Protests India Test of Ground to Air Missile," Indian Express, 3 September 1998, www.expressindia.com.

1 September 1998

Christopher Farce, editor of Jane's Defence Weekly, told BBC reporters that having two unexploded US Tomahawk cruise missiles land on Pakistani territory "could well be good news for Pakistan." Farce said that although Pakistan may not have the complete technical ability to reverse-engineer the missile, it could strip down the missile and probably find out some things about the missile. He said that Pakistan has a fairly well established anti-tank and air

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defense industry and have a good base in anti-tank and surface to air missile, but are just now moving into ballistic missiles. Even if Pakistan can not fully utilize the US cruise missile, it could sell the missile to China. Farce said that Pakistan and China are working closely together and a lot of trading occurs across borders. He said there is an obvious possibility that "the missile or parts could go across to China and that would be a great assistance for the Chinese missile industry..."

—"Pakistan Can Reverse Engineer Cruise Missile Technology: Jane's Defence Weekly," Pakistan Link, 1 September 1998, www.Pakistanlink.com.

31 August 1998

Official unnamed Pakistani sources said that Pakistan found a second unexploded US Tomahawk cruise missile. The missile, one of several targeted at a terrorist camp in Afghanistan on 20 August 1998, was discovered in Hoshab sub-district of Mekran coastal area off the Arabian Sea. The other US cruise missile was found in the Kharan district of Baluchistan province on 21 August 1998.

—"Pakistan Says It Found, Destroyed Second Unexploded US Missile," *Indian Express*, 31 August 1998, www.expressindia.com.

28 August 1998

Pakistani security sources said that Pakistani scientists were examining various components of the US Tomahawk cruise missile that was found unexploded on 21 August 1998. The scientists are studying the guidance system, onboard computer, and propulsion system. An unidentified Pakistani official said that the find was a "jackpot that included the satellite global positioning system and other technological improvements made to the Tomahawks since the 1991 Persian Gulf War." However, Retired US Lt. Gen. Thomas G. McInerney doubts the significance of the Pakistani find. He said that "when a cruise missile crashes it's like dropping a Waterford crystal glass. They are very fragile and are not designed to bounce." In addition, McInerney said that what did not break on impact would probably have been burned by the missile's fuel, which would ignite on impact.

— Kamran Khan, "Pakistan Says It Is Studying Errant US Missile," *Washington Post*, 28 August 1998, www.washingtonpost.com.

27 August 1998

During US-Pakistani talks on 25 August 1998 in London, the Pakistani Government agreed to hold high level talks with the United States regarding negotiating a mechanism for export control of nuclear and missile technology. Proposed talks will take place in September 1998 in Geneva. The Pakistani Government has shown signs of willingness toward negotiating a Fissile Material Cutoff Treaty (FMCT) and possibly signing the Comprehensive Test Ban Treaty (CTBT). US officials are currently discussing an economic bargain for Pakistan in return for its assent to the CTBT.

—"Pakistan Agrees to Check on Fissile Material Export," Pakistan Link, 27 August 1998, www.Pakistanlink.com.

26 August 1998

An unexploded US Tomahawk cruise missile was found in Pakistan on 21 August 1998. US experts said that the missile's target was intended to strike a terrorist camp located in Afghanistan. However, the missile malfunctioned and landed in Kharan, in the vicinity of Pakistan's nuclear test site. The United States would like the missile

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returned but Pakistan has alternative ideas. One Pakistani official said that "Pakistan should make the most of this opportunity and immediately hand it over to scientists for necessary action. Advance technology can be acquired through reverse engineering and there is no reason why Pakistan shouldn't make an attempt to do this with the Tomahawk." In addition, Pakistan is facing security concerns because Pakistan's defenses are unable to detect a Tomahawk missile attack. One official said that "Pakistan has no defense against the Tomahawk and if one day it is used against Pakistan's nuclear installations, or for that matter any other target, there is little that we can do about it."

— Fahd Husain, "Tomahawk: Finders Keepers," *The Nation* (Islamabad), 26 August 1998.

24 August 1998

An unidentified unexploded US cruise missile was found on 22 August 1998 in Pakistan. Pakistani officials said that the missile was found approximately 10km from Kharan near the site where Pakistan conducted its nuclear tests in May. Previous reports made on 22 August 1998 by the Pakistani foreign office claimed that a US cruise missile exploded in Pakistan, killing six people. The Pakistani government retracted the statement on the grounds that it was based on erroneous information. Consequently, the Pakistani intelligence bureau chief, Chaudhry Manzoor Ahmed, was fired over of the incident.

— Saleem Shahid, "Unexploded US Missile Found Near Kharan," *Dawn*, 24 August 1998, www.dawn.com.

9 August 1998

Pakistani scientist Dr. Samar Mubarakmand, Director of Pakistan's Atomic Energy Commission said that Pakistan is able to test-fire the Shaheen-1 at any time. The Shaheen-1 is a medium-range surface-to-surface ballistic missile that has an estimated range of 750km. Mubarakmand said that "we can conduct the first test-fire of the Shaheen missile at any time, but it depends on the decision of the government to carry out the test."

—"Shaheen Missile Test-Fire Any Time: Pak Scientist," *Pakistani Link Headlines*, 9 August 1998, www.Pakistanlink.com.

19 July 1998

Al-Akhbar, a Pakistani newspaper, reported on 19 July 1998 that Pakistan had "manufactured" a new intermediate-range ballistic missile (IRBM) named Abdali. The missile has an estimated range of 3,500km/2,170 miles. The *Al-Akhbar* report said that the Abdali's "laboratory tests had been successful and that the missile could be tested at any time in open air."

—"Pakistan to Test New 3,500km Missile," *CDISS*, 19 July 1998, www.cdiss.org.

1 July 1998

US Assistant Secretary of Defense Kenneth Bacon is skeptical whether June 1998 Pakistani press reports on Pakistan's testing of new missiles are credible. The last confirmed missile Pakistan tested was the Ghauri missile on 6 April 1998. The Ghauri missile has an estimated range of 1,300km. The Pakistani press has since reported that Pakistan tested two more missiles, Shaheen-2 and Shaheen-3. The US Government does not have evidence that the missiles exist. It does have evidence, however, that Pakistan is working to develop a shorter-range missile with an estimated range between 500-600km, known as the Tarmuk. The US government's 1997 edition of the Proliferation Threat and Response report says that Pakistan already has two ballistic missile systems: the Pakistani-

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produced Hatf-1 with a range of 80km; and a short-range ballistic missile (SRBM) with a range of 300km. It is possible that the SRBM is the aforementioned Tarmuk. A third missile, the Hatf-2, appears to have been discontinued. India and Pakistan are developing, testing, and discussing weaponizing their missiles with nuclear warheads. It is estimated that both countries will be able to weaponize within a year or two. The United States has requested that both countries halt weaponization and testing, and sign the Comprehensive Test Ban Treaty and the Fissile Materials Cutoff Agreement. Bacon reported that North Korea has completed its No-dong missile. He would not comment, however, on whether the missile has been deployed or is operational. The US Government is investigating whether Pakistan's Ghauri missile is based upon the No-dong.

—"No-dong Development Completed, Says US Government," *Missiles and Rockets*, July 1998, p. 5.

5 June 1998

Japanese news media reports said that Pakistan may have transferred a nuclear bomb to North Korea in exchange for medium-range surface-to-surface No-dong missiles. Western defense experts reported that North Korea transferred 10 to 11 No-dong missiles to Pakistan through China in what the experts described as a "missile and nuclear axis between China-Pakistan-North Korea." Paul Beaver, a spokesman for Jane's Information Group, said that Pakistan's test of the Ghauri missile conducted on 6 April 1998 was just the No-dong with a "few minor modifications by Pakistani scientists." Japanese authorities are concerned that North Korea may develop its nuclear arsenal, which may create a chain reaction with South Korea. US intelligence sources said "it has been confirmed that North Korea, with Chinese collusion had transferred medium-range surface-to-surface missiles to Pakistan." US sources also said that "in return Pakistan had given North Korea access to its nuclear weapons technology." The sources further added that it would not be long before "Iran had the same access to Pakistan nuclear technology as well as North Korean missiles."

—"Pak Transfers N-Technology to N. Korea In Exchange for Missiles," *Indian Express*, 5 June 1998, www.expressindia.com.

2 June 1998

Chinese Foreign Ministry spokesman Zhu Bangzao said that China did not transfer missile or nuclear related technology to Pakistan. Bangzao said "China is a responsible nation with a serious commitment to non-proliferation."

—"China Denies Weapons Aid to Pakistan," *Inquisit*, 2 June 1998, www.inquisit.com.

1 June 1998

Dr. Samar Mubarakmand, head of Pakistan's nuclear test program, said that Pakistan was able to test a thermonuclear device if the government gave the mandate to do so. Mubarakmand also said that it was important to have a fission test first, before a thermonuclear test. Since Pakistan conducted a successful fission test Mubarakmand said, "we can now proceed towards thermonuclear technology, if required." Mubarakmand reported that the accumulated yield of the five tests conducted on 28 May 1998 was 40kt to 45kt. He said that the test conducted on 30 May 1998 was only one device and its yield was 15kt to 18kt. He also said that the second test was of a miniaturized device that could be mounted on missiles.

— Khalid Qayum, "Shaheen Missile Awaits Go-Ahead for Test-Fire," *The Nation* (Lahore), 1 June 1998, www.nation.com.

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1 June 1998

US President Bill Clinton condemned Pakistan's sixth nuclear test conducted on 30 May 1998. Clinton said, "Pakistan and India are contributing to a self-defeating cycle of escalation" and he urged both countries to "renounce further nuclear and missile testing immediately and take decisive steps to reverse this dangerous arms race." CIA reports revealed on 30 May 1998 that Pakistan is preparing to test-fire its medium-range ballistic missile Ghauri. The Ghauri has an estimated range of 900 miles and is capable of carrying a nuclear warhead. The reports also revealed that Pakistan as of 30 May 1998 is preparing to test-fire a second "shorter range missile named the Tarmuk." The Tarmuk has an estimated range of 250 miles.

— N.C. Menon, "Pak's Sixth Test Triggers Anger and Frustration," *Hindustan Times*, 1 June 1998, www.hindustantimes.com.

1 June 1998

Pakistan reported that it would continue to develop plans for a new medium-range ballistic missile called the Shaheen-2. Samar Mubarakmand, head of Pakistan's missile program, said that the Shaheen-2 is capable of carrying a nuclear warhead 2,000km and could be test-fired within a year. Mubarakmand also said that the Shaheen-1 is capable of carrying a nuclear warhead, has an estimated range of 700km and could be tested within days. In addition, Mubarakmand said, "we have ground tested the missile, which allows maximum accuracy and can travel 700km in seven seconds." He also said that "the Shaheen-1 has been mounted on a launching pad and awaits the go-ahead from the government." Mubarakmand said the Shaheen was solid-fueled and "could hit the target with a precision of 250m," and that the Shaheen was produced indigenously by Pakistan's National Development Complex (NDC). His comments came after Abdul Qadeer Khan, the architect of Pakistan's nuclear program, said, "the country was going into mass production of the Ghauri long-range missile and could create nuclear weapons within days."

—"Pakistan Developing Long-Range Missile," *The Nation* (Lahore), 1 June 1998, www.nation.com; Khalid Qayum, "Shaheen Missile Awaits Go-Ahead for Test-Fire," *The Nation*, 1 June 1998, www.nation.com.

1 June 1998

Unnamed CIA officials reported that Pakistan is preparing to launch its medium-range ballistic missile Ghauri and its short-range ballistic missile Tarmuk. The Ghauri has an estimated range of 900 miles and is capable of carrying a nuclear warhead. The Tarmuk has an estimated range of 250 miles. Michael Beardon, a former CIA official said that "Pakistan is a screw-turn away from weaponizing its bomb, putting it on a missile or dropping it from an F-16." CIA officials said that India has the same weaponization readiness as Pakistan.

— Ramesh Chandran, "Pakistan Ready to Test-Fire Ghauri, Tarnuk," *Times Of India*, 1 June 1998, www.timesofindia.com.

1 June 1998

US intelligence officials reported that Pakistan will conduct a second launch of its medium-range ballistic missile Ghauri. The officials also said that Pakistan has 12 Ghauri missiles and 30 Chinese-made short-range M-11's. US intelligence officials reported that Pakistani press reports, which said that Pakistan had launched on 29 May 1998 two medium-range ballistic missiles, Abdali and Ghaznavi, were inaccurate.

— T.V. Parasuram, "Second Launch of Ghauri Likely Soon," *Times of India*, 1 June 1998, www.timesofindia.com.

Related content is available on the website for the Nuclear Threat Initiative, www.nti.org.



29 May 1998

Pakistani Defense Ministry officials reported that Pakistan had tested the medium-range ballistic missile Shaheen, which is capable of carrying a nuclear warhead. The Shaheen has an estimated range of 2,500km and was test-fired at 0615hrs on 29 May 1998 in a desert in the southwestern province of Baluchistan.

—"Pakistan Tests Long-Range Missile," *Inquisit*, 29 May 1998, www.inquisit.com.

28 May 1998

Pakistani Prime Minister Nawaz Sharif reported on May 28 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.

—"Pakistan Conducts Five Nuclear Tests," *New York Times*, 28 May 1998, www.nytimes.com.

28 May 1998

On 27 May 1998, Pakistan moved out several dozen launching pads loaded with Ghauri intermediate-range ballistic missiles (IRBM) from Kahuta Research Laboratories (KRL) to unidentified sites. The Ghauri is capable of carrying both nuclear and conventional warheads and has a range of 1500km. Media reports suggested that the deployment of the Ghauri missiles were to enable Pakistan to respond immediately if India launched a pre-emptive strike against Pakistani nuclear installations. [VOG] reported on 27 May 1999 that Pakistan had completed all preparations to detonate at least two nuclear devices within 24 to 48 hours.

—"Ghauri Missiles Deployed to Pre-Empt Raid on Pakistan's Nuclear Installations," Pakistan Institute for Air Defence Studies, PIADS Pakistan Defence News Bulletin, 28 May 1998, www.geocities.com.

20 May 1998

Analysts believe that North Korea may be Pakistan's silent partner in the development of intermediate-range ballistic missiles. Pakistan tested its Ghauri intermediate-range ballistic missile (1,500km range) on 6 April 1998. North Korean and Pakistani cooperation in the development of ballistic missiles is supposed to have begun during the Iran-Iraq war when the former apparently supplied 160 Scud Mod B (known as Hwasong 5 in North Korea) to Iran. North Korean and Pakistani missile engineers and experts worked together on Iran's ballistic missile program.

North Korea sold drilling and milling equipment to Pakistan. The two countries also launched a clandestine program to procure nuclear and missile technologies from Germany. Pakistan is also suspected of having shared nuclear technology with North Korea. Cooperation was expanded in 1988 after Benazir Bhutto became prime minister of Pakistan. Benazir Bhutto is credited with the acceleration of missile cooperation with both China and North Korea. During her tenure as prime minister, Pakistani officials are alleged to have visited North Korea's Sanum-dong missile development center to appraise the No-dong ballistic missile. In July 1992, North Korea's Deputy Foreign Minister, Kim Yong-nam visited Pakistan. High on the agenda was the sale of the Scud Mod C and the No-dong ballistic missiles to Pakistan.

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On 29-30 May 1993, Pakistani and Iranian missile specialists witnessed the firing of a No-dong and three Scud Mod B/C missiles in North Korea. Benazir Bhutto's subsequent visit in December 1993 to Pyongyang, probably led to the inception of the Ghauri. North Korea supplied Pakistan with major components including fuel tanks and rocket engines for the Ghauri. According to intelligence sources, Chinese assistance has been indirect and mainly confined areas of soft engineering such as guidance. It is also likely that North Korea served as a conduit for Chinese ballistic missile component transfers to Pakistan. On 24 April 1998, the US State Department determined that missile-related transfers between North Korea's Changgwang Sinyong Corporation and Pakistan's Khan Research Laboratories had led to the development of the Ghauri and imposed sanctions on the two organizations.

— Joseph Bermudez, "A Silent Partner," *Jane's Defence Weekly*, 20 May 1998, pp. 16-17.

7 May 1998

Pakistani Foreign Minister Gohar Ayub Khan said that the development of the Ghauri missile has given Pakistan an edge over India in missile technology. Khan said, "in the missile race we have overtaken them." In developing the Ghauri, Pakistan has "shattered the myth of India's strategic depth and could reach any Indian city." According to Khan, "if Pakistan marked Indian cities, the way Indians had every Pakistani city in their range, massive destruction could take place." However, he added, "it should never come to this."

—"Ghauri Gives Pakistan Edge Over India: Gohar," *Dawn*, 7 May 1998, www.dawn.com.

7 May 1998

US Congressman Frank Pallone said that the United States should reassess its relationship with Pakistan and stop "appeasing" Pakistan in light of recent "disturbing" events. Pallone said that a reassessment is long overdue, in view of Pakistan's recent test-firing of the Ghauri missile and allegations that Pakistan offered to share nuclear arms technology with Iraq. Pallone said that the current policy toward Pakistan is one of "appeasement," and that US policy should be stronger in terms of "discouraging the continued trend toward destabilization and weapons proliferation that the Pakistani government continues to engage in."

—"Neighbors - US Needs to Stop 'Appeasing' Pakistan: Pallone," *India Express*, 7 May 1998, www.expressindia.com.

5 May 1998

The United States imposed sanctions against two Pakistani and North Korean firms who allegedly co-operated in the test-firing of the Ghauri missile. The public notice of the missile proliferation sanctions was issued on 24 April 1998 by the Bureau of Political-Military Affairs in the State Department and signed by Eric D. Newsom, acting assistant secretary of state. The notification named two companies: Changgwang Sinyong Corporation (also known as North Korea Mining Development Trading Corporation) and its sub-units, successors, and affiliated companies, and Khan Research Laboratories in Pakistan, its sub-units, and successors. The sanctions cover a two year period and include: new individual licenses for exports to the companies under the Export Administration Act of 1979, new licenses for exports to the companies under the Arms Export Control Act, government contracts with the companies involving prohibited missile technology proliferation activities, and products produced by the companies. Additional sanctions were applied to the North Korean government since it was "a non-market economy that is not a former member of the Warsaw Pact." These sanctions include North Korean government

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activity relating to the development and production of missile equipment or technology and all activities for the production of electronics, space systems, or equipment and military aircraft.

Pakistani Foreign Minister Gohar Ayub said that the sanctions will have no practical implications on Pakistan, since it does not receive aid or military assistance from the United States. During a press conference at the Pakistan embassy on 5 May 1998, Ambassador Riaz Khokhar said that imposing sanctions was "discrimination on the part of the US and such policies or laws will not serve the purpose of nonproliferation." The briefing also covered purchase of US F-16 aircraft by Pakistan, which have been paid for but not yet received. Khokhar said that Pakistan had "formally informed the US that it would file a case in a US court to recover the money paid for the F-16 aircraft." Asked whether Pakistan would attempt to recover the interest accumulated on the \$658 million deal, Khokhar said that would be brought up "at the right time."

— Shaheen Sehbai, "Kahuta Put on US Black List US," *Dawn*, 5 May 1998, dawn.com; Amit Baruah, "Pak. Claims on Ghauri Dashed," *Hindu*, 5 May 1998, p. 12, www.hinduonline.com; Shaheen Sehbai, "US Action on Kahuta Biased, Says Pakistan," *Dawn*, 6 May 1998, dawn.com.

5 May 1998

The United States imposed sanctions against Pakistan's nuclear research center based in Kahuta and against North Korean companies suspected of assisting Pakistan in its tests of the medium-range missile "Ghauri". The US State Department reported that the missile tests were a "violation of the regime of control over non-proliferation of nuclear technologies." The sanctions prohibit cooperation with these organizations by US companies. Pakistan's Prime Minister Nawaz Sharif declared that the "symbolic sanctions imposed by the United States would in no way impede Pakistan's advance towards creation of the most powerful weapons to reinforce its defense potential." —"Pakistan Ignores US Sanctions Following Tests of Ghauri," *Inquisit*, 5 May 1998, www.inquisit.com.

5 May 1998

Pakistani Minister of State for Foreign Affairs Siddique Khan Kanju said despite foreign pressure, Pakistan will continue its missile program to make the country's defense "invincible." Kanju said that Pakistan "wants to have the best friendly and bilateral relations with all countries including the United States but not at the cost of the country's security." Kanju said that Pakistan's nuclear program would also be continued, but assured that it was only for peaceful purposes.

—"Pakistan to Continue Missile Program: Kanju," Pakistan Link, 5 May 1998, www.Pakistanlink.com.

1 May 1998

Pakistani Defense Secretary Lt-Gen. Iftikhar Ali Khan reported that the Pakistani Navy is building a missile boat with Chinese assistance. The missile boat will cost Rs 824 million (\$18.7 million, 30 April 1998), has a speed of 25 knots and will be capable of firing C-802 type surface-to-surface missiles with a range of 150km. Khan also reported that the "bulk" of the missile boat will be built from foreign companies and the estimated time for completion is 16 months. In addition, Khan said, "as a defense planner, I feel that it is of paramount importance that expansion and modernization of the country's port and shipping sector be undertaken on a war footing."

—"Pakistan Begins Work on Its First Missile Boat," *Dawn*, 1 May 1998, www.dawn.com.

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30 April 1998

Pakistani officials said that China is supplying Pakistan with technical assistance for its first missile boat. The boat, which is being built by Karachi Shipyard and Engineering Works (KSEW), will carry surface-to-surface missiles that have an estimated range of 150km. The vessel will have the ability to travel at 25 knots and will be used for coastal defense.

—"Pakistan to Build First Missile Boat," The Nation, 30 April 1998, www.nation.com.pk.

24 April 1998

Pakistani Prime Minister Nawaz Sharif said that he is calling on South Asia to become an area free of weapons of mass destruction and missile systems. Sharif said that he was motivated to open a dialog between Pakistan and India due to his concern for peace and economic development in the region. Although promoting such an option, Sharif said that Pakistan "cannot remain complacent about any development which would threaten [Pakistan's] security."

—"Nawaz Favors missile free South Asia," Pakistan Link, 24 April 1998, www.Pakistanlink.com.

22 April 1998

V.K. Saraswat, a senior Indian defense scientist, said that Pakistan's Ghauri intermediate-range ballistic missile does not pose a threat to India because it is still in the development stage. Saraswat also said that Pakistan would need at least five more years before the Ghauri would be ready for production. Saraswat reported that India could destroy any possible threat posed by Pakistan. He said that India's missiles could easily reach Karachi and other strategically important places located on Pakistan's coast. Saraswat also reported that India would not further its development of intercontinental missiles. However, different models of existing missiles would be developed, "enhancing their capacity up to 5,000km."

— Shyam Parekh, "Ghauri Is Still in Development," The Times Of India, 22 April 1998.

20 April 1998

Pakistani President Muhammad Rafiq Tarar said that Pakistan will further its missile development program by developing a series of new missiles that will be named after Muslim rulers. Tarar also said, "the Ghauri, Ghaznavi, Babri and Abdali missiles should be developed to make the defense of Pakistan impregnable, and the country should ignore any amount of pressure." Tarar recommended establishing a commission that would "enhance cooperation among the Muslim world in political and economic fields."

— Shahid Ahmed Khan, "Pakistan Should Expedite Missile Plan," The Times of India, 20 April 1998, www.timesofindia.com.

19 April 1998

Pakistani President Mohammed Rafiq Tarar has asked Pakistani scientists to develop more missiles. Tarar said "the Ghauri, Ghaznavi, Babri, and Abdali missiles should be developed to make the country's defense impregnable, and that the scientists should ignore any amount of pressure that may arise because of this."

—"Pakistan President Wants More Missiles Developed," Inquisit Agent Report, 19 April 1998, www.inquisit.com.

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14 April 1998

Pakistani Foreign Minister Gohar Ayub said that Pakistan has been able to acquire a deterrent capability "despite all odds and pressures." He said, "Pakistan could not be oblivious of its genuine security concerns in the wake of massive arms build-up by India." Khan said the test-fire of the Ghauri missile was "a landmark in [Pakistan's] efforts to acquire a credible indigenous missile capability." Indian Prime Minister Nawaz Sharif has proposed a resumption in the dialogue between India and Pakistan. Khan said that Pakistan has welcomed the new government in India, "despite its public utterances of exercising [India's] nuclear weapons option."

—"Gohar Says Pakistan Aware of Indian Arms Build-Up: Deterrence Has Been Achieved," Dawn, 14 April 1998, www.dawn.com.

10 April 1998

A US Arms Control official said that there was no evidence that China assisted Pakistan in its testing of the medium-range ballistic missile Ghauri. US Undersecretary of State John Holum said that China has helped Pakistan's missile program in the past, however, "it's true that Pakistan has sought assistance from a number of sources for its missile programs." In regards to China's assistance to Pakistan, China's Foreign Ministry spokesman Zhu Bangzao said that there was not "the slightest connection."

—"US Probing China's Role in Missile Test Firing by Pak," The Indian Express, 10 April 1998, www.expressindia.com.

9 April 1998

The senior vice-chairman of the Pakistan Peoples Party (PPP), Makhdoom Amin Fahim, said that Pakistan's indigenous missile program had received political and financial support from the PPP government of Benazir Bhutto. Fahim said, "the government of Benazir Bhutto believed that indigenous missile capability was the only real answer to the challenges posed by the development of Pakistan-specific Prithvi and Agni missiles by India which had disturbed the delicate balance of power in the region."

—"Benazir Deserves All Credit for Ghauri Missile: PPP," Pakistan Link, 9 April 1998, www.Pakistanlink.com.

8 April 1998

The test-launch of Pakistan's Ghauri ballistic missile on 6 April 1998 has started an "earnest nuclear and missile row" between India and Pakistan. The missile test will also increase tension between Pakistan and the United States. The significance of the Pakistani missile test "is that it confirms the putative nuclear weapons of Pakistan." Pakistan's effort is small compared to the bigger, more expensive, and integrated nuclear weapons of India. The domestic pressure on Pakistani Prime Minister Nawaz Sharif to take a firm stand on India is increasing. As relations between Pakistan and India worsen, the United States will be provided an opportunity by both countries to play an important, more dominant role in South Asia.

— M.B. Naqvi, "Ghauri Will Intensify Arms Race In Sub-Continent," Times of India, 8 April 1998, www.timesofindia.com.

7 April 1998

Pakistan successfully test fired the Ghauri, a medium-range surface-to-surface missile, on 6 April 1998. The Ghauri has a range of about 950 miles and is believed to have the capability of delivering nuclear weapons. It would appear that "Pakistan has revived symbolically the regional rivalry between Hindu and Muslim," because the

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missile was named after an Afghan Muslim king who defeated a Hindu ruler in the 12th century. Pakistan said that development of the Ghauri was entirely an internal effort. Pakistan's Prime Minister Nawaz Sharif said, "our scientists, by their high sense of commitment and skill, have shown that Pakistan has mastered complex technologies. The entire nation is proud of their achievement."

— Zahid Hussain, "Pakistan Missile Can Hit Delhi," *The Times*, 7 April 1998, www.sunday-times.co.uk.

7 April 1998

A Pakistani Foreign Office spokesman announced that Pakistan would like to avoid an arms race with India and that its testing of the Ghauri missile would have no impact on the Foreign Secretary-level talks with India. The talks are in accordance with an agreement between India and Pakistan in June 1997 in Islamabad. The spokesman reported that the reason the "test" would not effect India-Pakistan Secretary-level talks is because "so may other developments have taken place, which have not deterred us from holding talks with India." The spokesman further added that India has carried out numerous tests of various missiles and these tests have yet to deter Pakistan from continuing talks with India. The spokesman also said that the Ghauri was "for the time being" a research and development effort, and "since the effort was indigenous no international sanctions would come into effect."

— Amit Baruah, "Test Will Not Affect Talks, Says Pak," *The Hindu*, 7 April 1998, www.hinduonline.com.

7 April 1998

Pakistani scientists reported that the Ghauri intermediate-range ballistic missile is capable of carrying nuclear warheads and is able to target most major Indian cities. The scientists said that the Ghauri is Pakistan's equivalent to India's Prithvi and Agni missiles.

—"Pak Test-Fires N-Head Capacity Missile," *Indian Express*, 7 April 1998, www.expressindia.com.

7 April 1998

A Pakistani foreign ministry spokesman said Pakistan successfully test fired the Ghauri medium-range surface-to-surface missile on 6 April 1998. The Ghauri, with a range of 1,500km and a payload of 700kg, is capable of carrying a nuclear warhead. A Pakistani foreign office spokesman reported that the missile had hit its "target at a range of 1,100km without any error." The foreign ministry also reported that "this test represents a step forward in Pakistan's indigenous missile capability through the dedication and commitment of our scientists and engineers."

—"Pakistan Tests Medium-Range Ghauri Missile," *Times of India*, 7 April 1998, www.timesofindia.com; Amit Baruah, "Pak. Testfires 1,500-km Range Missile," *The Hindu*, 7 April 1998, www.hinduonline.com.

1 April 1998

Pakistani President Mohammad Rafiq Tarar suggested on 18 April 1998 that Pakistan was considering developing three further missiles. "Ghauri, Ghaznavi, Babri, and Abdali missiles should be developed to make the defense of Pakistan impregnable." Pakistani government officials suggested that the Ghaznavi would have a range of 2,000km. No new information was given about the Babri or Abdali. On 15 April 1998, Pakistani nuclear scientist Abdul Qadeer Khan said that the Ghauri's range could be increased further.

—"Pakistan to Accelerate Missile Program," *Current Missile News*, April 1998, www.cdiss.org.

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22 March 1998

Western diplomats and Pakistani intelligence sources announced that Pakistan is preparing to test launch its new Ghauri surface-to-surface ballistic missile at Gwadar Bay base, on the coast of the Arabian Sea. Intelligence sources said that Pakistan's original test launch had been cancelled due to diplomatic pressure from the United States and the United Kingdom. However, an unnamed source said, "There is no question of Pakistan backing down on the missile question. The test will go ahead whatever the cost for relations with the West."

— Stephen Grey, "Pakistan Plays Poker with India," Sunday Times, 22 March 1998, www.sundaytimes.com.

16 March 1998

An unidentified source said that Pakistan will not test-fire the Ghauri ballistic missile on 22 March 1998 due to intense US pressure. The Pakistan's People's Party (PPP) asked the government to share with the people of Pakistan its reasons and circumstances for not test-firing the Ghauri. A PPP spokesman said that the Pakistani government developed the Ghauri in response to the Indian threat posed by the Prithvi and Agni missiles. The spokesman also said that in view of the threat posed by India, "our people must be assured that we too have adequate response to any threat."

— Faraz Hashmi, "Pakistan Gives Up Plan to Test Missile," Dawn, 16 March 1998, dawn.com; "The Missile Test Cancellation: PPP Asks Government to Take Nation into Confidence," Dawn, 17 March 1998.

21 February 1998

In an interview with Voice of America, Pakistani Foreign Minister Gohar Ayub said that Pakistan is indigenously manufacturing missiles. He denied reports indicating that Pakistan was getting missiles from China. "Pakistani engineers have themselves acquired this technology and they are manufacturing [missiles] indigenously."

—"Pakistan Manufacturing Indigenous Missiles: Gohar," Pakistan Link, 21 February 1998, www.Pakistanlink.com.

9 February 1998

Media reports in Pakistan suggest that Islamabad will display its Ghauri 1,500km (930-mile) range medium range ballistic missile (MRBM) on 23 March 1998, Pakistan's National Day. Some estimates indicate that the Ghauri's range may be as much as 2,000km (1,240 miles). The Jang newspaper (Rawalpindi) reported that the Ghauri is capable of carrying both nuclear and chemical warheads. In addition, US intelligence reports concluded that it was "probable that Pakistan had developed nuclear warheads small enough to be carried by a Chinese M-11 short-range ballistic missile (SRBM)." Accuracy is estimated at 250m circular error probable (CEP).

Pakistani reports say that Pakistan developed the Ghauri indigenously. However, "there is little doubt that the Ghauri is in fact a Chinese system whose production in Pakistan would amount to little more than assembling complete imported subsystems." Indian analyst K. Subrahmanyam suggested that the Ghauri is the Chinese CSS-2 rather than a hybrid missile consisting of "stacked M-9s or M-11s. The Ghauri will have the capability to target both population centers and military installations throughout northern and central India. India's Bharatiya Janata Party (BJP) leader Lal Krishna Advani demanded an immediate Indian response to the threat posed by the Ghauri. Advani demanded that the "United Front government immediately embark on the weaponization of the nuclear option and expedite the development and operationalization of Agni-1 and hasten the development of Agni-2."

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The Agni-2 is an unconfirmed Indian 5,000km (3,100-mile) range intermediate range ballistic missile (IRBM).

— "Pakistan Set to Unveil 'Ghauri' MRBM in March," Current Missile News, 9 February 1998, www.cdiss.org.

8 January 1998

Pakistan reported that it has developed a new ballistic missile, Ghauri, that has a range of 1,500 to 2,000 km. The Ghauri will fulfill a long-held Pakistani objective to counter India's "strategic depth." Pakistan said that the Ghauri is designed to counter India's Prithvi missile.

—"Ghauri Missile of Pakistan," FBIS-TAC-98-008, 8 January 1998; Delhi All India Radio Network, 5 January 1998.

1997

1997

The US Central Intelligence Agency (CIA) reports that Chinese and North Korean entities are providing assistance to Pakistan's ballistic missile program, and that "such assistance is critical for Islamabad's efforts to achieve independence from foreign sources and to produce long-range ballistic missiles." In response, the United States imposed sanctions on North Korean entities "for their role in transferring ballistic missile-related technology to Pakistan." The report further states that China has provided extensive assistance to Pakistan's weapons of mass destruction programs, and "China's involvement with Pakistan will be monitored closely."

—"Report of Proliferation-Related Acquisition in 1997," Director of Central Intelligence, 1997, www.cia.gov.

December 1997

Gordon Oehler, former Director of the Central Intelligence Agency's (CIA) Nonproliferation Center, says that Pakistan has recently announced the development of a 1,500km-range missile called Ghauri. Even though Pakistan claims Ghauri to be an indigenously produced missile, US analysts suspect foreign assistance in building the missile. US analysts believe that China and North Korea provided the necessary technical advice.

—Barbara Starr, "Pakistan's new danger weapon is 'confirmed'," *Jane's Defence Weekly* (Coulson, Surrey), 3 December 1997, p. 15.

16 December 1997

During a meeting with Indian Prime Minister Inder Gujral in New Delhi, the Chairman of the Chinese Communist Party's disciplinary commission Wei Jianxing denies that China has supplied M-11 ballistic missiles to Pakistan. However, an Indian foreign ministry spokesperson explains that "they [China] are sensitized to our [Indian] concerns in this matter."

—"China Denies Arming Pakistan with Long-Range Missiles," Agence France Presse (Hong Kong), 16 December 1997; in FBIS Document FTS19971216000876, 16 December 1997.

November 1997

German intelligence services, BND, reported that Iran uses fake companies located in third countries for its missile program purchases. Dubai and Pakistan are considered among these third countries.

—*Stern* (Hamburg), 9 November 1997, pp. 182-184, in FBIS-TAC-97-254, 9 November 1997; in *Nonproliferation Review*, Winter 1998, Vol. 5, No. 2, James Martin Center for Nonproliferation Studies, p. 142.

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20 October 1997

The United States agrees to sell China nuclear technology in exchange for Beijing's cessation of help to Iran and Pakistan on their nuclear and missile programs. The Sino-American agreement, which could be signed 29 October, would also include a promise by President Jiang Zemin that Beijing will stop selling anti-ship cruise missiles to Iran. —Hugo Gurdon, "US, China in Nuclear Deal: Exchange Means China Must Stop Helping Iran, Pakistan," *Gazette* (Montreal), 20 October 1997, p. B1, in Lexis-Nexis, www.lexis-nexis.com.

2 October 1997

Reliable sources indicate that Space and Upper Atmosphere Research Commission (SUPARCO) has developed a new missile with a range of 1,000-1,500km for research purposes. The missile can also be used for defense purposes.

—"Sources: SUPARCO Prepares Missile with Range of 1,500 Km," *Jang* (Karachi), 2 October 1997; in FBIS Document FTS19971003000726, 3 October 1997.

Fall 1997

Intelligence sources begin monitoring North Korean flights to Pakistan. There are about three flights a month until January 1998, when the number of flights increased three-fold. The flights mostly involve Il-76 transports; the transports apparently carried technical exports, including telemetry crews in February and March 1998. The increase in the number of flights followed the visit of the North Korean chief of staff and the head of the strategic forces, which leads analysts to believe that Pakistan and North Korea have entered into an agreement for North Korean access to Pakistan's range facilities in exchange for military technology.

—"Pakistan's Missile 'Was a Nodong'," *Jane's Missiles & Rockets* (Coulsdon, Surrey), vol. 2, no. 5, May 1998, pp. 1-2.

26 July 1997

Former Pakistani Prime Minister of Pakistan Benazir Bhutto confirms Pakistan's development of an 800km-range ballistic missile. Bhutto claims credit for the development of the missile and declares the missile to be her "golden jubilee present" to the people of Pakistan. Ms Bhutto put the onus on the United States, France, Germany, Great Britain, and Japan for failing to avert a missile regime in South Asia and insists that Pakistan was forced to acquire an indigenous missile capability to match India's missile strength and to deter Indian adventurism against Pakistan. —P.S. Suryanarayana, "Sri Lanka Benazir confirms Pak. Missile development," *Hindu* (Chennai), 26 July 1997, News, p. 12; in Lexis-Nexis Academic Universe, 26 July 1997, web.lexis-nexis.com.

24 July 1997

Pakistan announces the successful test-firing of an "indigenously produced" surface-to-air missile, Anza, and an anti-tank guided missile, Baktar Shikan. A statement released by the Pakistani defense ministry says that the test took place at Nowshera, about 100km north-west of Islamabad.

—Amit Baruj, "Pak test-fires two missiles," *Hindu* (Chennai), 24 July 1997, News, p. 1; in Lexis-Nexis Academic Universe, 24 July 1997, web.lexis-nexis.com.

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21 July 1997

Defence sources in India say that "integration of nuclear warheads with its missiles" is high on Pakistan's agenda and that China is "entirely" assisting Pakistan in its missile and nuclear programs. Sources explain that the economics of the missile deal between China and Pakistan clearly involved future production of missiles by Pakistan since one third of the \$516 million for technology transfer was used on 64 missiles. According to reported estimates, Pakistan could have 80 M-11 missiles and about 12 to 20 missile launchers.

—"PRC Said Aiding Pakistan Develop Missiles with N-Warheads," *Pioneer* (New Delhi), 21 July 1997; in FBIS Document FTS19970721000663, 21 July 1997.

3 July 1997

A Pakistani foreign office spokesperson confirms that Pakistan test-fired a new version of its indigenous Hatf missile. The spokesperson did not provide any details about the range of the tested missile but news reports indicate the range to be 800km. The spokesperson says that the Space and Upper Atmosphere Research Commission (SUPARCO) carried out the test as part of its routine testing. The spokesperson says that SUPARCO is involved in "peaceful research and development of rocket motor technology" and that none of its activities involves military components. The spokesperson denies a *Washington Post* report that says that the US Central Intelligence Agency (CIA) in its recent report told Congress that China has provided assistance to Pakistan's ballistic missile program and says that Pakistan's relationship with China was "totally in the sphere of peaceful uses of technology."

—"Government Confirms Test-Firing of New Missile," Agence France Presse, 3 July 1997; in FBIS Document FTS19970703000413, 3 July 1997.

2 July 1997

A leading Pakistani newspaper reports that Pakistan successfully test-fired a short-range missile with a range of up to 800km. The news report quoting reliable sources names the test-fired missile to be the third in the Hatf series with an enhanced range.

—"Delhi Reports Pakistan Test Fired Medium-Range Missile," All India Radio Network, 2 July 1997; in FBIS Document FTS19970702000584, 2 July 1997.

Early July 1997

Pakistan claims to have carried out a test-firing of the surface-to-surface Hatf-III missile. A Pakistani foreign office spokesperson indicates that the Space and Upper Atmosphere Research Commission (SUPARCO) conducted the test.

—Amit Barujaj, "Pak test-fires two missiles," *Hindu* (Chennai), 24 July 1997, News, p. 1; in Lexis-Nexis Academic Universe, 24 July 1997, web.lexis-nexis.com.

First week of July 1997

A Central Intelligence Agency (CIA) report states that China has provided significant variety of assistance to Pakistan's and Iran's missile programs.

—R. Jeffrey Smith, "CIA Report calls China and Russia Key Suppliers of Most Destructive Arms, Technology,"

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Washington Post, 2 July 1997, A Section, p. A24; in Lexis-Nexis Academic Universe, 2 July 1997, web.lexis-nexis.com.

7 June 1997

Indian Army Chief General Shankar Roychowdhury says Pakistan's M-11 short-range ballistic missiles are located close to the border of India and Pakistan. He says the missiles are "not actively deployed," but adds that they can be deployed quickly.

—"Army Chief—Pakistan Missile Sites Located Near Border," *Telegraph* (Calcutta), 7 June 1997; in FBIS Document FTS19970609000644, 7 June 1997.

4 June 1997

Pakistan's Chief of Army Staff General Jehangir Karamat says Pakistan will have to proceed with the development of an indigenous missile capability in the absence of reassurances to address India's missile deployment.

—"Army Chief Reacts to Reports of Indian Missile Deployment," PTV Television Network, 4 June 1997; in FBIS Document FTS19970604000819, 4 June 1997.

27 May 1997

Peter Frisch, president of the Cologne-based Office for the Protection of the Constitution and chief of Germany's counter terrorism, tells the *Jerusalem Post* that Iran, Libya, and Pakistan have been trying for years to obtain parts for their non-conventional weapons programs through Germany.

—Steve Rodan, "German Terrorism Chief: Iran's Missiles Can Hit US," *Jerusalem Post* (Jerusalem, Israel), 28 May 1997, p. 1, in Lexis-Nexis, www.lexis-nexis.com.

March 1997

Jane's Intelligence Review reports that Pakistan's Space Upper Atmosphere Research Commission (SUPARCO) tried to buy electron-beam welding equipment from a British-based company, which stopped the shipment. The requested equipment can be used for specialized welding on a missile's airframe. The magazine report also says that Pakistani agents have increased their efforts to acquire equipment that can be used to make sophisticated nuclear weapons designs. The equipment requested by Pakistan could be used for taking precision measurements and for conducting diagnostic examinations. Such activities can help Pakistan design small nuclear warheads that can be fitted atop a missile. The report mentions a previous attempt in which Pakistan's Institute for Industrial Automation attempted to obtain special valves for a vacuum furnace from a French company. The shipment was stopped by British customs authorities as it passed through Britain.

—Andrew Koch, "Pakistan persists with nuclear procurement," *Jane's Intelligence Review* (Coulsdon, Surrey), March 1997.

1997

Kang T'ae Yun, a North Korean diplomat in Pakistan, brokers a deal with the All Russian Institute of Light Alloys in Moscow for the delivery of maraging steel to Pakistan and North Korea. North Korea's Changgwang Sinyong Corp acquires special "maraging steel" for Pakistan's missile program. Customs officials in Gatwick Airport seized the maraging steel, addressed to Kang Thae Yun, when it is discovered on a British Airways flight from Moscow to

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Islamabad. Intelligence sources believe Kang T'ae Yun to be one of North Korea's busiest arms dealers.

—Dexter Filkins, "N. Korea Aid to Pakistan Raises Nuclear Fears," *Los Angeles Times*, 23 August 1999, in Lexis-Nexis Academic Universe, web.lexis-nexis.com; Julian West, "Pakistan Murder Exposes Nuclear Link: The Killing of a Diplomat's Wife has Revealed the Sinister Connection Between the North Koreans and the Pakistanis," *Sunday Telegraph* (London), 1 November 1998, p. 32, in Lexis-Nexis Academic Universe, web.lexis-nexis.com; Lee Ch'öl Min, "Pakistan, Puk'e Haekkisul Chegong," *Chosun Ilbo*, 25 August 1999, p. 10, in KINDS, www.kinds.or.kr; Bill Gertz, "Pakistan gets help with missile; North Korea delivered warhead canisters for Ghauri model," *Washington Times*, 14 September 1998; in Lexis-Nexis Academic Universe, 14 September 1998, web.lexis-nexis.com.

1996

July-December 1996

The US Central Intelligence Agency (CIA) reports that Pakistan is making "strong efforts to acquire an indigenous capability in missile production technologies," and that "China...was a major supplier to Pakistan's ballistic missile program, providing technology and assistance."

—"The Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventions/Munitions, Director of Central Intelligence, July-December 1996, www.fas.org.

13 December 1996

A North Korean military controlled corporation, Lyongaksan, is believed to have shipped the rocket fuel seized in Hong Kong in April. The same corporation was behind the shipment of fuel seized in Taiwan in March this year. Officials say that both shipments were destined for Pakistan's Space Upper Atmosphere Research Commission (SUPARCO) and had the same contract number. The Hong Kong shipment is supposed to have originated in the North Korean port of Nampo and then shipped through Xian, China. The shipment is believed to have been routed through China after the earlier shipment in March was confiscated in Taiwan. Officials believe that Lyongaksan or Yongaksan belong to the same state-run corporation. *Jane's Intelligence Review* reports that both the corporations are part of the External Economic General Bureau that handles North Korea's trade in arms. The United States determined in 1992 that Lyongaksan was selling missiles to Iran and Syria and the company has been on international watch lists since then.

—Glenn Schloss, "DPRK Firm Said Behind Rocket Fuel Bound for Pakistan," *South China Morning Post* (Hong Kong), 13 December 1996; in FBIS Document FTS19961213000119, 13 December 1996.

13 December 1996

Hong Kong custom officials seize a shipment of 10 tons of ammonium perchlorate destined for Pakistan's Space Upper Atmosphere Research Commission (SUPARCO), Karachi. However, the Pakistani consulate denies that the shipment was meant for SUPARCO. A spokesperson for the Pakistani Consul-General Tariq I. Puri denies the fuel was destined for SUPARCO. The spokesperson claims that 10 tons of seized fuel was a "sizeable amount" and states that SUPARCO imports only a small quantity of fuel.

—Glenn Schloss, "Cargo linked to Pakistan space agency suspected by West," *South China Morning Post* (Hong Kong), 13 December 1996, p. 4; in Lexis-Nexis Academic Universe, 13 December 1996, web.lexis-nexis.com.

Related content is available on the website for the Nuclear Threat Initiative, www.nti.org.



October 1996

The Central Intelligence Agency (CIA) and other US intelligence agencies reach an agreement on a "Statement of Fact" that China is assisting Pakistan to build a missile factory near Rawalpindi that can produce key parts of the rocket within two years. White House officials insist on greater evidence like photos of missiles out of the crates. CIA officials, however, suspect that Pakistan is aware of the timing of US spy satellites and has taken steps to conceal its efforts during those time intervals.

—Douglas Waller, "The Secret Missile Deal," *Time*, 30 June 1997; www.cnn.com.

19 September 1996

Pakistan's Foreign Office spokesperson says the Space Upper Atmosphere Research Commission (SUPARCO) is engaged in research activities and has imported a tiny quantity of solid propellants for research and development purposes. The spokesperson denies the confiscation of a huge amount of fuel and terms the news report as "misleading, baseless, and unfounded."

—Tariq Butt, "Pakistan Denies Report on Rocket Fuel Smuggling," *The News* (Karachi), 20 September 1996; in FBIS Document FTS19960920000529, 20 September 1996.

18 September 1996

The report of the Hong Kong customs seizure in April 1996 of an ammonium perchlorate shipment from China to Pakistan's Space and Upper Atmosphere Research Commission (SUPARCO) is made public.

—Michelle Chin and Glenn Schloss, "Customs raid uncovers huge haul of rocket fuel," *South China Morning Post* (Hong Kong), 18 September 1996, p. 1; in Lexis-Nexis Academic Universe, 18 September 1996, web.lexis-nexis.com.

13 September 1996

Highly placed Indian sources say that China and Pakistan are working on a new long-range missile that will supplement the M-11 missile. The new missile will most likely be able to deliver a 500kg payload over a range of 600km. Sources indicate that work on the new missile began in January 1996 and "It is possible that Chinese experts are building upon some of the know-how which Pakistan has developed earlier."

—Atul Aneja, "'Sources' Report China, Pakistan Working on New Missile," *Hindu* (Chennai), 13 September 1996; in FBIS Document FTS19960913000565, 13 September 1996.

27 August 1996

Foreign Report, published by Jane's Information Group, says that Pakistan has built a factory in pre-fabricated sheds in the Kala Chata mountain range near Fatehgunj, 40km west of Islamabad. According to the report, the factory is named National Defence Complex and is being built to produce ballistic missiles with Chinese assistance. The report states that sophisticated equipment such as gyroscopes, accelerometers, and on-board computers have been supplied by the China Precision Machine Import and Export Corporation.

—Pravin Sawhney, "Chinese Missile Technology Transfer Alleged," *Asian Age* (New Delhi), 27 August 1996; in FBIS Document ID: FTS19960827000380, 27 August 1996.

27 August 1996

Chinese Foreign Ministry spokesperson Shen Guofang says the United States must "act with prudence" in making

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allegations of Chinese exports of weapons technology. The spokesperson says, "The US intelligence agency has supplied much inaccurate information and in fact the US side has suffered hard lessons there."

—"Spokesman Urges US Prudence in Intelligence Reports," Agence France Presse, 27 August 1996; in FBIS Document FTS19960827000031, 27 August 1996.

27 August 1996

Pakistan's Foreign Minister Sardar Asif Ahmad Ali denies the construction of a short-range missile factory near Islamabad with Chinese assistance. He terms the US news report about the factory as "false and malicious." The Chinese foreign ministry also terms the reports as "groundless" and Pakistani diplomats in Beijing say there is "no defense factory" near Islamabad. However, the US State Department spokesperson rejects the denials and says "we make our decisions based on our own information gathering." He further adds that the United States is going to pursue this issue "very, very actively."

—"Asif Denies Missile Factory Being Built with PRC Help," Agence France Presse, 27 August 1996; in FBIS Document FTS19960827000346, 27 August 1996.

25 August 1996

US Vice President Al Gore states that the United States has a "...very active, vigorous program of monitoring all exchanges of technology from China or any other country that might violate the international treaties and laws that are relevant to this. And we are watching very, very carefully, and we have an active, ongoing dialogue with the Chinese on this very point."

—National Public Radio, 27 August 1996.

Last Week of August 1996

US intelligence agencies strongly suspect Chinese assistance to Pakistan in building a factory for short-range ballistic missiles. The factory is being built in a suburb of Rawalpindi, a city near Islamabad. The factory, when completed, is expected to produce most of the major components for the M-11 missile. Some officials believe the factory will turn out precise duplicates of the M-11 missile. The M-11 missile is capable of carrying a nuclear warhead and has a range of 200 miles.

US intelligence officials have been aware of the factory's existence for the past year, when its construction began. An intelligence official says they have been noticing "crates of stuff" arrive at the factory and says the crates' contents have been determined with a certain degree of certainty. The factory's use is described in the recent National Intelligence Estimate (NIE), which also states that Pakistan has built warheads for the M-11 missile. US officials believe that the factory's completion will give Pakistan an indigenous capacity to build missiles, thereby matching India's missile production capacity. US intelligence agencies indicate that the missile factory is the result of an accord reached between China and Pakistan in the late 1980s, under which China agreed to ship the makings of M-11 missiles to Pakistan as well as three dozen completed M-11 missiles. US Central Intelligence Agency (CIA) officials conclude that China has shipped more than 30 ready-to-launch M-11 missiles and that these missiles are kept in canisters located at the Sargodha Air Force base near Lahore. CIA officials also believe that Pakistan is working on small nuclear warheads to be fitted on top of the missile.

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However, differences exist among US analysts as to the exact purpose of the factory. Some analysts believe that the factory is a "turn-key" or "soup to nuts" facility capable of manufacturing complete M-11 missiles, with two missile stages, rocket motors, solid-propellant, and requisite guidance systems. Other analysts believe that the factory can only produce a few components for the missile and Pakistan might still be required to import guidance systems and the specialty steel needed for rocket motor bodies. Spy satellite photographs indicate similarities between the Rawalpindi plant and the M-11 rocket facility in Hubei province in central China. Officials are also debating the extent of the Chinese role in building the factory. Intelligence reports from agents on the ground and telephone intercepts indicate that about a dozen engineers from the China Precision Machinery Import-Export Corporation have visited the factory. The CIA also noticed crates suspected of containing machine tools for rocket motors being shipped by the Chinese corporation. Analysts from CIA and the State Department, however, differ on whether the M-11 missiles in Pakistan's possession are "operational." The issue was settled by not using the term "operational" in the final draft of the US intelligence assessment. Instead, the assessment states that the missile can be launched within 48 hours.

Several US officials say that even though the Clinton administration has not formally accepted that China has sold completed M-11 missiles to Pakistan, the recent National Intelligence Estimate (NIE) confidently states that the missiles are in canisters stored at Pakistan's Sargodha Air Force base, west of Lahore. Washington is seeking further confirmation of Chinese involvement. The United States has twice imposed sanctions on China for its missile deals with Pakistan and removed them after China promised to stop its deliveries. Four US officials, speaking on condition of anonymity, said that China's assistance in the factory construction is a serious violation of China's pledge to follow the Missile Technology Control Regime (MTCR) stipulations. China has not signed the MTCR.

However, Pakistan flatly denies reports that it is building a missile factory with Chinese assistance, saying that the claim was a lie spread by its archrival India. The Deputy Chief of Mission at the Pakistani Embassy Zamir Akram denies the existence of such a factory. He says that Tarwanah, the suburb mentioned in US reports, has no major military or Air Force facilities. China has also described the allegations as groundless. An official at the Chinese embassy also denies Chinese assistance to Pakistan in building M-11 missiles. The official says, "There never was any such cooperation. This was discussed when we signed the 1994 agreement."

—R. Jeffrey Smith, "China Linked To Pakistani Missile Plant; Secret Project Could Renew Sanctions issue," *Washington Post*, 25 August 1996, p. A01; in Lexis-Nexis Academic Universe, 25 August 1996, web.lexis-nexis.com; Tim Weiner, "US Says It Suspects China Is Helping Pakistan With Missiles," *New York Times*, 26 August 1996, p. 6; in Lexis-Nexis Academic Universe, 26 August 1996, web.lexis-nexis.com; "Pakistan's Missiles," *Pittsburg Post-Gazette* (Pittsburg, Pennsylvania), 27 August 1997, p. A-4; in Lexis-Nexis Academic Universe, 26 August 1996, web.lexis-nexis.com; Steven Erlanger, "US Wary of Punishing China For Missile Help To Pakistan," *New York Times*, 27 August 1997, p. 6; in Lexis-Nexis Academic Universe, 27 August 1996, web.lexis-nexis.com; Douglas Waller, "The Secret Missile Deal," *Time*, 30 June 1997, www.cnn.com.

July 1996

British officials deport Mohammed Saleem, an employee of Pakistan's High Commission in London, on charges of participating in "proliferation of weapons of mass destruction." US officials say that Saleem is the European

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purchaser of equipment for A.Q. Khan Research laboratories. In the last five years, three employees of Pakistan's High Commission, including Saleem, have been deported for violation of British export control laws.

—Andrew Koch, "Pakistan persists with nuclear procurement," *Jane's Intelligence Review* (Coulsdon, Surrey), March 1997.

14 June 1996

Chinese foreign ministry spokesperson Shen Guofang terms the reports on Chinese transfer of M-11 missiles to Pakistan as unfounded. Guofang says, "We have not in the past, nor shall we in the future, sell similar missiles to Pakistan or other countries."

—"Spokesman Denies Sale of Missiles to Pakistan," *WEN WEI PO* (Hong Kong), 14 June 1996; in FBIS Document FTS19960614000117, 14 June 1996.

June 1996

US officials say a new US government report unambiguously confirms that Pakistan possesses medium-range ballistic missiles produced by China. The report also states that Pakistan, for the first time, has completed developing nuclear warheads for the missiles. US officials indicate that the report augments the intelligence community's conclusions regarding the presence of complete Chinese M-11 missiles in Pakistan. The report's conclusion puts additional pressure on the Clinton administration to impose sanctions on the two countries.

The intelligence community is, however, divided on the "operational" status of the missiles. Representatives from the Central Intelligence Agency (CIA) and the Defense Intelligence Agency (DIA) argue that the missiles are operational since a unit of the Pakistani Army has been assigned to operate the missiles and has undergone training by the Chinese experts. Officials from the CIA and the DIA insist that the missiles can be withdrawn from the crates and be deployed within a few days. Officials from the State Department's Bureau of Intelligence and Research (INR), however, argue that the missiles are not operational as there is no concrete information on the training practices of the Pakistani Army. The INR insists that the missiles cannot be considered operational until they have been taken out of the crates and used in training, an act that has not occurred so far. A similar dispute exists over the report's conclusion that Pakistani engineers might have completed the difficult task of developing nuclear warheads for the missiles. Several officials reached this conclusion based on an estimate of Pakistan's efforts to develop nuclear warheads. INR analysts, however, insist that unless a warhead has been flight tested, its development cannot be considered successful. The flight-testing of a warhead has not happened so far. US officials indicate that the final phrasing of the report will be decided by CIA Director John M. Deutch, after further drafting by the Weapons and Space Systems Intelligence Committee, a panel comprising of US intelligence agencies and officials from Australia, Canada and Britain. Australia and Canada agree with the conclusions of the INR that the missiles are not "operational" and that the development of nuclear warheads for the missiles is not complete.

—R. Jeffrey Smith, "Report Cites China–Pakistan Missile Links," *Washington Post*, 13 June 1996, p. A19; in Lexis-Nexis Academic Universe, 12 June 1996, web.lexis-nexis.com.

May 1996

A US interagency intelligence report prepared by the Weapons and Space Systems Intelligence Committee says the M-11 ballistic missiles supplied to Pakistan by China are operational. The report is based on evidence provided by

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the US Central Intelligence Agency (CIA). The missiles were believed to be in crates at the Sargodha airbase and some US officials believe that China provided experts to assemble the missiles and train Pakistani personnel in operating them. The US officials also believe that Pakistan has developed a nuclear warhead for its M-11 missile based on a design provided by China in 1983. The supplied design was tested by China in 1966.

—Andrew Koch, "Pakistan persists with nuclear procurement," *Jane's Intelligence Review* (Coulsdon, Surrey), March 1997.

29 April 1996

Hong Kong customs officials raid and seize a shipment of rocket fuel from China to Pakistan. The raid yields 200 boxes of ammonium perchlorate, which is used as an oxidizer in solid-propellants. The shipment originated in Xian, China and was destined for Pakistan's Space and Upper Atmosphere Research Commission (SUPARCO), Karachi.

—Michelle Chin and Glenn Schloss, "Customs raid uncovers huge haul of rocket fuel," *South China Morning Post* (Hong Kong), 18 September 1996, p. 1; in Lexis-Nexis Academic Universe, 18 September 1996, web.lexis-nexis.com.

12 March 1996

Taiwanese customs officials announce that a North Korean ship, the *Chŏn Sŭng*, bound for Pakistan was found carrying 15 tons (200 barrels) of ammonium perchlorate, which is used in manufacturing rocket propellants. The shipment was discovered last week in Kaoshuing Harbor. The shipment was destined for Pakistan's Space and Upper Atmosphere Research Commission (SUPARCO), but the ship will return to North Korea.

—"Puk Han, Pakistan's Missile Chaejoyong Hwahagmulchil Such'ul Shido," *Chosun Ilbo*, 12 March 1996, www.chosun.com; "Rocket Chejoyong Kwayŏmsosanyŏm/Puk, Pakistan Such'ul'gido," *Hankyoreh Shinmun*, 13 March 1996, p. 2, in KINDS, www.kinds.or.kr.

1996

US Assistant Secretary of State Winston Lord writes a letter to Senator Robert F. Bennett in which he states, "The entire Pakistani strategic weapons program should be stamped 'Made in China,'"

—Bill Gertz, "China plays a major role in expanding the nuclear club," *Washington Times*, 29 May 1998, part A, p. A1; in Lexis-Nexis Academic Universe, 29 May 1998, web.lexis-nexis.com.

1995

Late November 1995

Marshall Ch'oe Gwang, vice chairman of the National Defense Commission and minister of the People's Armed Forces, leads a North Korean delegation to Pakistan. Ch'oe is believed to have visited missile production facilities in the Faisalabad-Lahore area and possibly Jhelum. The visit is believed to have resulted in the conclusion of an agreement for North Korea to provide Pakistan with key components like fuel tanks and rocket engines from the Nodong and/or Taepodong missile programs, about 12 to 25 Nodong missiles, and at least one transporter erector launcher (TEL) or mobile erector launcher (MEL). The items included in the agreement will be produced by the Fourth Machine Industry Bureau of the 2nd Economic Committee and sent to the Khan Research laboratories in early 1996 by Changgwang Sinyong Corporation (North Korea Mining Development Trading Corporation/Bureau).

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—Joseph S. Bermudez, Jr., "A History of Ballistic Missile Development in the DPRK," Occasional Paper No. 2, James Martin Center for Nonproliferation Studies, November 1999, pp. 23-24; Joseph Bermudez, "A silent partner," *Jane's Defense Weekly* (Coulsdon, Surrey), 20 May 1998.

4 October 1995

US Undersecretary of State Lynn Davis says the United States will not impose any new sanctions on China unless it acquires incontrovertible proof that China has violated the Missile Technology Control Regime (MTCR) guidelines by selling M-11 ballistic missiles to Pakistan. According to Davis, the M-11 transaction may have occurred before China announced its intention to adhere to the MTCR in September 1994. Davis adds, "We have no reason to doubt that the Chinese are carrying out the pledge, as well as their original pledge to abide by the commitments of the MTCR."

—Bill Gertz, "Limits to be Loosened on Supercomputers; Clinton Waits on Sanctioning China," *Washington Times*, 5 October 1995; in Lexis-Nexis Academic Universe, 5 October 1995, web.lexis-nexis.com.

4 October 1995

Pakistan's Foreign Minister Sardar Asif Ahmad Ali says Pakistan will build its own indigenous defense against India's missile threat. He says Pakistan needs to match India's capabilities without violating the Missile Technology Control Regime (MTCR) guidelines.

—"Minister Advocates Indigenous Missile Defense," PTV Television Network, 4 October 1995; in FBIS Document FTS19951004000130, 4 October 1995.

October 1995

Islamic Revolutionary Guards Corps (IRGC) Navy Commander Rear Admiral Ali Shamkhani announces that his forces will conduct 38 exercises in the Persian Gulf over a period of five months and hold joint maneuvers with Pakistan and "another neighboring country." The exercises will be the most intensive military exercises in the Gulf and will involve the use of cruise and anti-ship missiles.

—James Bruce, "Iran steps up Gulf exercises," *Jane's Defence Weekly* (Coulsdon, Surrey), 1 January 1996, p. 12, in Lexis-Nexis, www.lexis-nexis.com.

5 September 1995

Chairman of Pakistan Ordnance Factories (POF) Maj. Gen. Mehmud Ali Durrani claims that POF can produce missiles if ordered by the government.

—"Official Details Arms Made at Ordnance Factories," *Business Recorder* (Islamabad), 5 September 1995; in FBIS Document FTS19950905000568, 5 September 1995.

3 July 1995

US intelligence officials say that satellite photographs, intercepted communications, and human intelligence have led them to incontrovertibly conclude that China has exported complete M-11 ballistic missiles to Pakistan; the missiles have been in Pakistan since 1992. Pakistan's military has also been observed building storage facilities for the missiles and their mobile launchers, as well as maintenance facilities and housing for the missile crews. Furthermore, Pakistani soldiers have practiced "simulated launches" with aid and advice of Chinese missile

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experts. US officials believe that the storage crates at Pakistan's Sargodha Air Force base contain 30 or more M-11 ballistic missiles—missiles that could someday be armed with nuclear warheads. However, despite the accumulating evidence, the Clinton administration has dragged its feet on imposing sanctions on China as penalties stipulated by US laws could seriously hurt Sino-US trade. Senior administration officials have suggested that the United States is unlikely to act unless China or Pakistan admits to the missile transaction or the US intelligence community presents more direct evidence such as the photograph of a missile outside its storage crate. A US State Department official acknowledges that this approach of setting the bar so high has made the US intelligence community "unhappy in the extreme."

—R. Jeffrey Smith, David B. Ottaway, "Spy Photos suggest China Missile Trade; Pressure for Sanctions builds over evidence that Pakistan has M-11s," *Washington Post*, 3 July 1995, p. A01; in Lexis-Nexis Academic Universe, 3 July 1995, web.lexis-nexis.com.

3 July 1995

Pakistan's embassy in Washington, DC says that the Pakistani government "categorically rejects the baseless allegations that Pakistan received M-11 missiles or their components from China. The Government of Pakistan has consistently maintained that Pakistan has not acquired M-11 or any other missiles from China that violate the Missile Technology Control Regime [MTCR]." The embassy's statement adds, "Pakistan has advocated the creation of a zero-missile zone in South Asia and supports the American efforts to avoid a missile race in the region."

—Syed Rifaat Hussain, Minister of Information, Embassy of Pakistan, Washington, DC, Letter to the Editor," *New York Times*, 1 July 1995; in Lexis-Nexis Academic Universe, 1 July 1995, web.lexis-nexis.com.

25 June 1995

Pakistan's Foreign Minister Sardar Asif Ahmad Ali calls US policy on the Missile Technology Control Regime (MTCR) with regard to Pakistan as "discriminatory." He points to the fact that last year's sanctions against China have been lifted but sanctions against Pakistan still remain. He states that Pakistan has never violated any international agreement on missile technology and has acted within "its four corners."

—"Foreign Minister's Remarks on MTCR," *The News* (Karachi), 25 June 1995; in FBIS Document FTS19950625000006, 25 June 1995.

24 June 1995

Pakistan's President Farooq Ahmad Leghari describes India's missile program as "tension multiplier" and says it is forcing Pakistan to keep its options open.

—"President Calls Indian Missile Program 'Tension Multiplier'," PTV Television Network, 24 June 1995; in FBIS Document FTS19950624000008, 24 June 1995.

22 June 1995

China describes reports of its delivery of missile components to Iran and Pakistan as "groundless." Pakistan denies acquiring components of M-11 missiles from China and a Pakistani foreign ministry spokesperson says the United States does not have any evidence to support the claim. The spokesperson also says that Pakistan has not violated the Missile Technology Control Regime (MTCR).

—Tony Walker and Jurek Martin, "China rejects reports of missile parts supply," *Financial Times* (London), 23 June 1995.

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1995, p. 8; in Lexis-Nexis Academic Universe, 23 June 1995, web.lexis-nexis.com; "Pakistan Denies Receiving Missile Parts from China," Xinhua, 22 June 1995; in FBIS Document FTS19970417001372, 22 June 1997.

June 1995

The US Central Intelligence Agency concludes that China exported components for missile systems to Pakistan during the last three months of 1995. The Director of the US Arms Control and Disarmament Agency John D. Holum says, "We have serious questions about China's missile-related exports to Pakistan and Iran, and we are in a position where we have to consider the question of sanctions...There are substantial indications of continued missile related transactions in both countries. We need clarification from the Chinese of what is under way. But as of now, that has not been possible." However, since China has shipped components as against complete missile systems, a debate has emerged within the Clinton administration whether the latest Chinese exports constitute violations of the Missile Technology Control Regime (MTCR) and attract penalties under US law.

—Elaine Sciolino, "C.I.A. Report says Chinese sent Iran Arms Components," *New York Times*, 22 June 1995, Section A, P. 1, Column 3, Foreign Desk; in Lexis-Nexis Academic Universe, 22 June 1995, web.lexis-nexis.com.

31 May 1995

Pakistan's President Farooq Ahmad Leghari says Pakistan has the capability to protect itself against India's missile threat and urges India not to initiate the second phase of its missile production and deployment. President Leghari says India's Prithvi missile is "Pakistan-specific" and says India's actions are pushing Pakistan to pursue an arms race. President Leghari says that Pakistan desires a "zero missile level" in the region and he proposes holding missile talks between India and Pakistan in a bilateral or multilateral setting.

—"Leghari Addresses Indian Missile 'Threat'," *The Nation* (Lahore, Islamabad), 31 May 1995; in FBIS Document FTS19950531000576, 31 May 1995.

5 May 1995

Chief of the Awami Qiyadat Party and former Commander-in-Chief of Pakistani Army General Mirza Aslam Beg says Pakistan has stopped producing M-11 missiles with Chinese assistance and adds that Pakistan has acquired the technology to make M-11 missiles from China.

—"Editorial Voices Concern over Military, India," *Khabrain* (Islamabad), 5 May 1995; in FBIS Document FTS19950505000103, 5 May 1995.

May 1995

Pakistan's Defense Production Board comprehensively reviews the impact on Pakistan's security due to India's missile program and decides to expand the range of Hatf and Anza missiles.

—"Daily Urges Military Buildup to Counter India," *Jang* (Karachi), May 9 1995; in FBIS Document FTS19950509000322, 9 May 1995.

May 1995

US authorities warn that Pakistan's Space and Upper Atmosphere Research Commission (SUPARCO) is attempting to obtain equipment and materials for producing ballistic missiles. SUPARCO has approached several European nations with requests for "composites, specialist alloy, and a range of production and testing equipment."

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SUPARCO tries to acquire electron-beam-welding equipment from a Cambridge-based company in the United States. The request is rejected and was reported to the Britain's Department of Trade and Industry's Export Control organization.

—"USA warns of Pakistan missile plan," *Flight International*, 17 May 1995; in Lexis-Nexis Academic Universe, 17 May 1995, web.lexis-nexis.com.

April 1995

US reconnaissance satellites apparently photograph M-11 missile canisters at a Pakistani facility in Sargodha.

—Bill Gertz, "Pakistan Deploys Chinese Missiles," *Washington Times*, 12 June 1996, pp. A1, A14.

March 1995

US Deputy Assistant Secretary for Nonproliferation in State Department, Robert Einhorn, comments that the United States may have no choice but to impose Missile Technology Control Regime Category I sanctions against China if enough evidence is gathered to prove that it sold M-11 missiles to Pakistan.

—Pushpindar Singh, *Asian Defence Journal* (Kuala Lumpur), May 1995, p. 83.

Early 1995

Pakistani agents try to obtain laser measuring equipment from Hungary but the shipment is stopped by British authorities.

—Andrew Koch, "Pakistan persists with nuclear procurement," *Jane's Intelligence Review* (Coulsdon, Surrey), March 1997.

1994

5 December 1994

Pakistan's President Farooq Ahmad Leghari, on a week-long visit to China, states that Pakistan has not received any M-11 missiles from China nor has China sold any M-11 missiles to Pakistan. He, however, adds "We have obtained some missiles which are within the MTCR parameters."

—"Pakistan president urges closing of China trade gap," *Agence France Presse*, 5 December 1994, *International News*; in Lexis-Nexis Academic Universe, 5 December 1994, web.lexis-nexis.com.

5 October 1994

The United States agrees to lift economic sanctions imposed on Chinese entities for exporting M-11 ballistic missiles to Pakistan. A US State Department statement says, "Once the sanctions are waived, China will not export ground-to-ground missiles featuring the primary parameters of the MTCR [Missile Technology Control Regime]...this Chinese commitment represents a global ban on exports, and goes beyond the requirements set forth in the MTCR." The Sino-US agreement that was signed on 4 October also calls for the automatic imposition of new economic sanctions if new M-11s are discovered in Pakistan. A US State Department official explains that the agreement with China signals that the United States has accepted the M-11 transfer to Pakistan.

—Bill Gertz, "China will stop missile sales; U.S. will lift sanctions; Pakistan was recipient of M-11s," *Washington Times*, 5 October 1994; in Lexis-Nexis Academic Universe, 5 October 1994, web.lexis-nexis.com.

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4 October 1994

Chinese Foreign Minister Qian Qichen and US Secretary of State Warren Christopher sign the "Joint United States-People's Republic of China Statement on Missile Proliferation," in which China promises not to "export ground-to-ground missiles featuring the primary characteristics of the [MTCR]...that is, inherently capable of reaching a range of at least 300km with a payload of at least 500kg." The agreement also states, "this Chinese commitment represents a global ban on exports, and goes beyond the requirements set forth in the MTCR, which call for a strong presumption of denial, for such missile exports." By signing this agreement, China accepts the US argument that missiles are to be restricted if they have the "inherent capability" to be modified to a capability covered under MTCR guidelines, "regardless of its demonstrated or advertised combination of range and payload." China and the United States also agree to "hold in-depth discussions" on the MTCR and the possibility of China's eventual membership in the regime.

—"Joint United States-People's Republic of China Statement on Missile Proliferation, 4 October 1994; Jon B. Wolfsthal, "U.S., China Reach New Accords On MTCR, Fissile Cut-Off Issues," *Arms Control Today*, November 1994, p. 28; Robert Shuey and Shirley A. Kan, "Chinese Missile and Nuclear Proliferation: Issues for Congress, *CRS Issue Brief*, 16 November 1995, p. 12.

3 October 1994

Chinese Foreign Minister Qian Qichen tells reporters that China has not violated the Missile Technology Control Regime (MTCR) by transferring M-11 ballistic missiles to Pakistan. Qichen adds that "China's policy on arms sales is a very responsible one...[and] China does not engage in the proliferation of weapons of mass destruction which may produce instability and conflict in regions concerned." Qichen also tells US Secretary of State Warren Christopher that the M-11 sales do not violate MTCR; he also objects to US sales of F-16s to Taiwan.

—Bill Gertz, "U.S., China clash over missile deal; Beijing argues arms sales to Pakistan don't violate treaty," *Washington Times*, 4 October 1994; in Lexis-Nexis Academic Universe, 4 October 1994, web.lexis-nexis.com.

27 September 1994

Chinese Deputy Foreign Minister Liu Huaqiu and US Ambassador J. Stapleton Roy meet to resolve the dispute regarding China's transfer of M-11 ballistic missiles to Pakistan. The preliminary negotiations are expected to set the stage for meetings between Chinese Foreign Minister Qian Qichen and US President Bill Clinton and Secretary of State Warren Christopher in November 1994.

—Patrick E. Tyler, "China ready to End Feud on Missiles," *New York Times*, 27 September 1994, p. A7; in Lexis-Nexis Academic Universe, 27 September 1994, web.lexis-nexis.com.

8 September 1994

The political counselor at the Pakistani embassy in Washington, DC, Zamir Akram, says that Pakistan has made no secret of its purchase of M-11 ballistic missiles from China. Zakram adds that the M-11 imports are a reaction to India's ballistic missile program, and Pakistan has no choice in this regard. Zakram also insists that the M-11s do not meet the range requirements spelled out in the Missile Technology Control Regime (MTCR) and hence are not subject to any restrictions under the regime.

—R. Jeffrey Smith, Thomas W. Lippman, *Washington Post*, 8 September 1994, First Section, P. A32; in Lexis-Nexis Academic Universe, 8 September 1994, web.lexis-nexis.com; Simon Beck, "New 'Evidence' of Pakistan arms sale,"

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South China Morning Post (Hong Kong), 8 September 1994, China, p. 16; in Lexis-Nexis Academic Universe, 8 September 1994, web.lexis-nexis.com.

September 1994

A North Korean delegation, led by chairman of the North Korean State Commission of Science and Technology, travels to Pakistan.

—Joseph S. Bermudez, Jr., "A History of Ballistic Missile Development in the DPRK," Occasional Paper No. 2, James Martin Center for Nonproliferation Studies, November 1999, p. 23.

1994

A US Central Intelligence Agency (CIA) report states that "Pakistan has ordered a further payment to China on the 1988 M-11 deal, and Chinese engineers plan soon to provide further M-11 training to the Pakistani army. Though we continue to receive reports that M-11s are in Pakistan, the Army has made no plans for field deployment and is just beginning to formulate an operational doctrine for the system. Pakistan, on 22 August [1994], made arrangements to pay China Precision Machinery Import/Export Corporation \$15 million for the 1988 contract for M-11 missiles, launchers, and support equipment, according to special intelligence. We have no indication of upcoming shipments or other events that would explain the timing of this payment. The last known payment on this contract—\$83 million—was in late 1992 for unspecified 'goods' shipped at that time; subsequent reporting has provided strong evidence that missiles were part of the cargo.

A Chinese team is expected to arrive at Pakistan's Sargodha missile facility in September to provide training on the M-11, probably on the handling of spare parts, according to special intelligence and a clandestine source. This team is probably separate from one that reportedly will arrive later this year—once the Sargodha facility is complete—to unpack and assemble M-11s. The latter team's arrival has been repeatedly delayed by the Pakistanis, ostensibly because of the need to complete construction at Sargodha, but almost certainly because of the greater likelihood of US detection of the missiles once assembled.

At least some of the M-11s that had been dispersed at military locations throughout Pakistan are now being stored at Sargodha, according to a clandestine source. But we have yet to see operational missiles on imagery. April imagery showed canisters at Sargodha similar to ones seen at the M-11 production facility in China. But a missile-handling exercise was under way at Sargodha at that time, and the canisters were assessed to be mock-ups for use in that exercise."

—Document cited in, Bill Gertz, *Betrayal: How the Clinton Administration Undermined American Security*, (Washington, DC: Regnery Publishing Inc., 1999), p. 268.

8 April 1994

Pakistani Prime Minister Benazir Bhutto indicates that Pakistan will reject the Clinton administration's proposal of providing Pakistan with F-16 fighter planes in return for a cap on Pakistan's nuclear program because it does not require India to do the same. Pakistan has already paid \$658 million for the planes, but their shipment is blocked due to a law that prohibits military aid to Pakistan unless the president can state that Pakistan is not developing a nuclear weapons program.

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—John Ward Anderson, "Pakistan Rebuffs U.S. On A-Bomb; Bhutto Says Plan Would Favor India," *Washington Post*, 8 April 1994, First Section, p. A30; in Lexis-Nexis Academic Universe, 8 April 1994, web.lexis-nexis.com.

April 1994

US satellite imagery detects M-11 missile canisters at the Sargodha Air Force base in Pakistan; the canisters are similar to the ones seen at the M-11 ballistic missile plant in China. However, US intelligence assesses that the canisters are probably mock ups.

—Bill Gertz, *Betrayal: How the Clinton Administration Undermined American Security*, (Washington, DC: Regnery Publishing Inc., 1999), p. 268.

April 1994

North Korean Foreign Ministry delegation led by Pak Chung Kuk travels to Iran and Pakistan.

—Joseph S. Bermudez, Jr., "A History of Ballistic Missile Development in the DPRK," Occasional Paper No. 2, James Martin Center for Nonproliferation Studies, November 1999, p. 23.

22 March 1994

US Undersecretary of State Lynn E. Davis says that the Clinton administration is willing to provide Pakistan with F-16 combat aircraft if Pakistan agrees to cap its nuclear weapons program.

—R. Jeffrey Smith, "U.S. Proposes Sale of F-16s to Pakistan; Deal Would Require Islamabad to Cap Its Nuclear Weapons Program," *Washington Post*, 23 March 1994, First Section, p. A27; in Lexis-Nexis Academic Universe, 23 March 1994, web.lexis-nexis.com.

11-14 March 1994

A visit by US State Department officials to China fails to break the Sino-US impasse on the Missile Technology Control Regime (MTCR). The US delegation indicates that Washington is willing to lift sanctions on China if Beijing signs the MTCR and "comes to an understanding" concerning future missile and missile technology transfers to Pakistan. However, China would prefer that the United States lift sanctions before it signs the MTCR. In a subsequent statement, US Undersecretary of State for International Security Lynn Davis says that the United States is closely watching China and is willing to impose stricter sanctions on China.

—*Inside the Pentagon*, 24 March 1994, pp. 9-10; *Defense Daily*, 23 March 1994, p. 436; *Arms Control Today*, April 1994, p. 28.

1994

An arrangement is made between Pakistan, China, and North Korea whereby China will provide technical assistance to Pakistan for the establishment and expansion of ballistic missile infrastructure within Pakistan while maintaining its pledges to the United States. According to the arrangement, China will provide Pakistan with soft technology and engineering for a new Pakistani Intermediate Range Ballistic Missile (IRBM) called Ghauri. North Korea will act as an agent for the transfer of Chinese technology and will provide Pakistan with hardware and components from its Nodong and Taepodong missile programs. China is believed to have agreed to supply components like the guidance systems, the areas in which North Korea does not have sufficient technological

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capability.

—Joseph Bermudez, "A silent partner," *Jane's Defense Weekly* (Coulson, Surrey), 20 May 1998.

1994

Pakistan's former Prime Minister M. Qureshi states that Pakistan obtained "comparable systems" from China between 1989 and 1992 after a few scud missiles were launched from Afghanistan towards Pakistan.

—Pravin Sawhney, "Chinese Missile Technology Transfer Alleged," *Asian Age* (New Delhi), 27 August 1996; in FBIS Document FTS19960827000380, 27 August 1996.

1993

30 December 1993

Pakistan's Prime Minister Benazir Bhutto leaves Pyongyang after having talks with North Korean President Kim Il Sung. Bhutto is accompanied in her talk by Foreign Minister Sardar Aseff Ahmad Ali and Minister of Defence Aftab Shaban Mirani. According to Pakistani officials, the Pakistani delegation left with plans for North Korea's Nodong missile.

—"Bhutto Ends Visit to North Korea," Agence France Presse, 30 December 1993, International News; in Lexis-Nexis Academic Universe, 30 December 1993, web.lexis-nexis.com.

30 December 1993

Pakistani Prime Minister Benazir Bhutto urges the United States to lift the sanctions imposed on China and Pakistan for the transfer of the Chinese M-11 missiles. Bhutto states that "China and Pakistan have not violated the parameters of the MTCR [Missile Technology Control Regime] agreement and we regret the imposition of the sanctions." Ms. Bhutto calls on the United States to review its stand on the sanctions as they are based on "erroneous information." Wu Jianmin, a Chinese Foreign Ministry spokesman, also comments that the sanctions "were entirely unjustified and should be lifted."

—Sheila Tefft, "China, Pakistan Band Together in Opposition to U.S. Sanctions," *Christian Science Monitor*, 30 December 1993, The World, International, p. 1; in Lexis-Nexis Academic Universe, 30 December 1993, web.lexis-nexis.com.

29 December 1993

Pakistan's Prime Minister Benazir Bhutto arrives in Pyongyang for a two-day state visit. Bhutto says she welcomes the ongoing talks between the United States and North Korea to diffuse the current nuclear crisis in North Korea.

—"DPRK, Pakistani Leaders call for Closer Asian Cooperation," Xinhua News Agency, 30 December 1993; in Lexis-Nexis Academic Universe, 31 December 1993, web.lexis-nexis.com.

29 December 1993

Pakistani Prime Minister Benazir Bhutto states in Beijing that Pakistan has purchased Chinese M-11 ballistic missiles because of the threat posed by Afghani Scuds and the Indian missile buildup.

—Jeffrey Parker, Reuters, 29 December 1993.

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26 December 1993

Pakistani Prime Minister Benazir Bhutto denies international media reports that she will be discussing missile procurement or development during her two-day visit to North Korea, which is to begin on 29 December 1993. The Pyongyang visit, which immediately follows a meeting in Beijing, is at the invitation of the North Korean President Kim Il Sung.

—Radio Pakistan Network, 26 December 1993, in "Denies Possible Talks on Missiles," FBIS-NES-93-246, 27 December 1993, p. 57; Radio Pakistan Network, 27 December 1993, in "Departs for China," FBIS-NES-93-246, 27 December 1993, p. 57.

December 1993

Pakistani Prime Minister Benazir Bhutto travels to China and North Korea two months after being elected. There is evidence she is seeking cooperation in missile development. Soon after her visit, Pakistan begins a project to purchase and produce the Nodong, known in Pakistan as the "Ghauri."

—Joseph S. Bermudez, Jr., "A History of Ballistic Missile Development in the DPRK," Occasional Paper No. 2, James Martin Center for Nonproliferation Studies, November 1999, p. 23.

11 November 1993

The Clinton administration offers to lift the recently imposed trade sanctions on China, subject to China's assurance of halting future missile-related exports. According to the suggested pact, China need not admit to the export of the M-11 missile components to Pakistan; but China must agree to a more detailed pledge having more legal force, promising not to transfer missiles and their components to Pakistan or to any other country.

—R. Jeffrey Smith, "U.S. offers to waive China Trade Sanctions," *Washington Post*, 11 November 1993, First Section, p. A39; in Lexis-Nexis Academic Universe, 11 November 1993, web.lexis-nexis.com.

28 August 1993

The Chinese Vice Foreign Minister Liu Huaqiu summons the US Ambassador J Stapleton Roy and warns that with the imposition of US sanctions, "...the Chinese government has been left with no alternatives but to reconsider its commitment to the MTCR [Missile Technology Control Regime]." Huaqiu labels the application of sanctions as a "naked hegemonic act."

—Raymond Whetaker, "U.S.-Chinese rift underlined by missile dispute; Anger over Pakistan connection fuels hostility between the two powers," *Independent* (London), 28 August 1993, International News Page, p. 10; in Lexis-Nexis Academic Universe, 28 August 1993, web.lexis-nexis.com.

27 August 1993

Pakistan's caretaker prime minister, Moeen Qureshi, faults the United States for imposing sanctions against China and Pakistan. In a statement, Qureshi states that the missiles do not fall under the Missile Technology Control Regime (MTCR) guidelines and emphasizes the role of the missiles as a defensive response to the scud attacks from Afghanistan and India's missile program.

—Farhan Bokhari, "Qureshi criticises U.S. for applying 'unjust' sanctions against China and Pakistan," *Financial Times* (London), 27 August 1993, p. 4; in Lexis-Nexis Academic Universe, 27 August 1993, web.lexis-nexis.com.

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26 August 1993

Pakistan denies its missile deals with China have broken any US rules. A senior Pakistani diplomat says, "China has supplied us with short-range tactical missiles that do not violate the Missile Technology Control regime (MTCR) guidelines, but we have no M-11s." Pakistan's Foreign Ministry indicates that the acquisition was necessitated by the Soviet-made scud attacks from Afghanistan in the late 1980s.

—Nancy Dunne, "China, Pakistan hit by U.S. sanctions," *Financial Times* (London), 26 August 1993, p. 16; in Lexis-Nexis Academic Universe, 26 August 1993, web.lexis-nexis.com; Ahmed Rashid, "Islamabad rejects CIA claims of missile deal," *Daily Telegraph* (London), 26 August 1993, International, p. 9; in Lexis-Nexis Academic Universe, 26 August 1993, web.lexis-nexis.com.

26 August 1993

In response to the allegations of missile transfer and the subsequent imposition of sanctions by the United States, China contends the missile range to be 190 miles and, hence, does not fall under the MTCR guidelines. Both China and Pakistan deny the US finding of the missile transfer.

— Martin Walker, "U.S. imposes curbs on China for missile know-how sale," *Guardian* (London), 26 August 1993, p. 7; in Lexis-Nexis Academic Universe, 26 August 1993, web.lexis-nexis.com.

25 August 1993

The United States announces sanctions against China for a period of two years, citing a Category II breach of the Missile Technology Control Regime (MTCR) guidelines. A Category II breach involves the transfer of missile components, whereas a Category I breach involves the transfer of complete missile systems. US State Department spokesperson Mike McCurry says the evidence regarding the M-11 missile sale has been reviewed by various US government agencies including the Central Intelligence Agency (CIA), the Pentagon, and the National Security Agency (NSA). After extensive review, the agencies concluded that the evidence of the missile sale was "unambiguous." However, China and Pakistan deny the veracity of the US findings.

—Martin Walker, "U.S. imposes curbs on China for missile know-how sale," *Guardian* (London), 26 August 1993, p. 7; in Lexis-Nexis Academic Universe, 26 August 1993, web.lexis-nexis.com; Mary Curtius, "China, Pakistan get U.S. sanctions over missile trade," *Boston Globe*, 26 August 1993, National/Foreign, Pg. 21; in Lexis-Nexis Academic Universe, 26 August 1993, web.lexis-nexis.com.

25 August 1993

The Clinton administration concludes that China has violated international arms control guidelines by selling missile components to Pakistan. The administration reached this conclusion after the US intelligence community arrived at a consensus view that China had indeed made the sale.

—Daniel Williams, "U.S. finds that China broke arms control rules," *Houston Chronicle*, 25 August 1993, Section A, p. 13; in Lexis-Nexis Academic Universe, 25 August 1993, web.lexis-nexis.com.

26 July 1993

During an informal meeting with the US Secretary of State Warren Christopher, Chinese Foreign Minister Qian Qichen denies that China has violated any international agreement on missile exports. However, Christopher warns Qichen that the United States may impose punitive sanctions on China in the face of mounting evidence that

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it has transferred missile technology to Pakistan in violation of its pledges to the United States.

—Steven A. Holmes, "China Denies Violating Pact By Selling Arms to Pakistan," *New York Times*, 26 July 1993, Section A, p. 2, Column 3, Foreign Desk, in Lexis-Nexis Academic Universe, 26 July 1993, web.lexis-nexis.com; Art Pine, "U.S. Warns Beijing on Arms Exports; Weapons: Sanctions may be imposed because of evidence of missile parts being shipped to Pakistan," *Los Angeles Times*, 26 July 1993, Part A, Page 4, Column 1, Foreign Desk; in Lexis-Nexis Academic Universe, 26 July 1993, web.lexis-nexis.com.

29-30 May 1993

North Korea successfully launches four missiles from the Musudan-ri test facility in Hwadae-kun, North Hamgyŏng Province, two of which are thought to be Nodong-1 missiles. Later reports confirm that only one of the missiles was a Nodong. One missile traveled 500km; another traveled 100km; the remaining two fell short of 100km. Israel's Mossad reportedly warned the United States and Japan of the test weeks in advance. Iranian and Pakistani observers are present for the tests.

—Kyodo News Service (Tokyo), 14 June 1993, in "DA: DPRK 'Appears' to Have Tested Missile," FBIS-EAS-93-112, 14 June 1993, p. 5; David E. Sanger, "Missile Is Tested by North Koreans," *New York Times*, 13 June 1993, p. 7; Kim Yong Kol, *Hankook Ilbo*, 16 June 1993, p. 4, in "Israel Makes Gesture to North Korea for Improvement of Relations," FBIS-EAS-93-114, "Possible Israeli Aid to DPRK Viewed," 16 June 1993, p. 20; "Defense Ministry: May Nodong-1 Test Successful," Yonhap News Agency (Seoul), 24 June 1993, in FBIS-EAS-93-120, 24 June 1993, p. 19; "North Korea Seen Successful in Test of Nodong-1 Missile," *Aerospace Daily*, 29 June 1993, pp. 538-539; Lee Jŏng Hun, "FROGesŏ Taepodong Kkaji: Pukhan Missile Game," *Shindonga*, August 1999, p. 203; Joseph S. Bermudez, Jr., "A History of Ballistic Missile Development in the DPRK," Occasional Paper No. 2, Center for Nonproliferation Studies, November 1999, pp. 17, 21; Joseph S. Bermudez, Jr., "An Analysis of North Korean Ballistic Missile Testing," *Jane's Intelligence Review* (Coulsdon, Surrey), April 1995, pp. 186-189; Chang Chun Ik, *Pukhan Haek-Missile Chŏnjaeng* (Seoul: Sŏmundang, May 1999), pp. 283-286, 291; Yu Yong Wŏn, "'Puk Changgŏrip'o Chŏnbang Chŏnggang'/Kukpangbu, Rodong 1 Ho Palsasŏnggong Ch'ŏt Kongshikhwag'in," *Chosun Ilbo*, 25 June 1993, p. 2, in KINDS, www.kinds.or.kr.

21 May 1993

Secretary-General of Pakistan's Foreign Ministry, Akram Zaki, denies that Pakistan has received M-11 missiles from China. He reiterates that friendly relations between Pakistan and China have a long history and that both the countries have had defense ties since 1963, but adds that China is strictly adhering to MTCR stipulations once it promised to do so. Mr. Zaki terms foreign news reports on M-11 missiles in Pakistan as "speculative stories and motivated allegations."

—"Pakistan denies receiving Chinese M-11 missiles," Agence France Presse, 21 May 1993; in Lexis-Nexis Academic Universe, 26 July 1993, web.lexis-nexis.com.

8 May 1993

The Chinese foreign ministry denies news reports of China's alleged transfer of missile components to Pakistan. The ministry's spokesperson says, "A news report on China shipping M-11 missiles is groundless," he adds, "The position of China that it will act in accordance with the guidelines of MTCR remains unchanged."

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—Leon Hadar, "Report of missile export deals blow to China's trade status extension," *Business Times* (Singapore), 8 May 1993; in Lexis-Nexis Academic Universe, 8 May 1993, web.lexis-nexis.com.

6 May 1993

US State Department spokesperson Joseph Snyder announces that the United States has "not determined that China transferred M-11 missiles to Pakistan." But the official adds the United States would regard "very seriously" any signs of China's breach of its commitment to adhere to the Missile Technology Control Regime (MTCR) guidelines.

—Douglas Jehl, "China breaking missiles pledge, U.S. aides say," *New York Times*, 6 May 1993, Section A, p. 1, Column 5, Foreign Desk, www.nytimes.com; in Lexis-Nexis Academic Universe, 6 May 1993, web.lexis-nexis.com.

6 May 1993

US intelligence officials say photographic and other evidence has provided proof that China indeed shipped M-11 ballistic missiles to Pakistan in violation of its pledge to the United States; and this evidence has grown more persuasive since reports first surfaced of the alleged Chinese transfers. Although earlier reports suggested that China had shipped complete missile systems, US officials say that more recent reports suggest that China most likely shipped missile components that could be assembled in Pakistan later. It is still unclear whether any of the missiles are functional at this point.

—Douglas Jehl, "China breaking missiles pledge, U.S. aides say," *New York Times*, 6 May 1993, Section A, p. 1, Column 5, Foreign Desk, www.nytimes.com; in Lexis-Nexis Academic Universe, 6 May 1993, web.lexis-nexis.com.

May 1993

Iran begins producing a new man-portable air-defense system (MANPADS) called the Misagh-1, which looks similar to the China National Precision Machinery Import and Export Corporation's QE-1 Vanguard and is also similar to Pakistan's Anza MK II missile system developed by Abdul Qadeer Khan Research Laboratories.

—Christopher F. Foss, "Iran fields manportable SAM System," *Jane's Defence Weekly* (Coulsdon, Surrey), 3 May 2000, p. 16.

1992

7 December 1992

China denies news reports of its missile sales to Pakistan; a Chinese foreign ministry official describes the reports as "groundless."

—Reuter, "China denies selling missiles to Pakistan," *Toronto Star* (Toronto), 7 December 1992, News, Pg. A12, www.thestar.com; in Lexis-Nexis Academic Universe, 7 December 1992, web.lexis-nexis.com.

6 December 1992

A five-member Chinese military delegation led by Major General Yang Guo Ping visits Pakistan to discuss matters of mutual military interest with senior Pakistani officials. The Chinese delegation visits Pakistani military and related-training institutions in Rawalpindi, Abbotabad, Peshawar, and Lahore.

—AFP, 6 December 1992; in *Proliferation Issues*, 18 December 1992, p. 16.

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6 December 1992

Responding to media reports about Pakistan's alleged acquisition of M-11 ballistic missiles from China, Pakistani Defense Minister Ghaus Ali Shah comments that he is in no position to challenge the veracity of such reports. Shah adds that Pakistan is well within its rights to defend its borders and points to India's efforts to acquire sophisticated nuclear missiles during the past few years.

—*Nation* (Lahore, Islamabad), 7 December 1992; in *Proliferation Issues*, 18 December 1992, p. 16.

6 December 1992

US intelligence officials claim they have proof of China's sale of missiles and transfers of weapons technology to Russia, Iran, Syria, and Pakistan.

—Michael Chugani, "U.S. acts over China arms sales," *South China Morning Post* (Hong Kong), 6 December 1992, Sunday Edition, p. 1; in Lexis-Nexis Academic Universe, 6 December 1992, web.lexis-nexis.com.

6 December 1992

The US government halts the sale of a crucial supercomputer to China and also threatens to impose additional sanctions if the intelligence reports of its clandestine missile deals with Pakistan are confirmed. A US State Department spokesman issues a strongly worded statement, indicating that the United States will treat this as a "serious matter," and will "pursue any evidence" regarding the missile deal. However, officials from the White House and the State Department indicate that the United States has not reached a conclusion on whether China has indeed violated its pledge to not sell M-11 ballistic missiles to Pakistan.

—Michael Chugani, "U.S. acts over China arms sales," *South China Morning Post* (Hong Kong), 6 December 1992, Sunday Edition, p. 1; in Lexis-Nexis Academic Universe, 6 December 1992, web.lexis-nexis.com.

5 December 1992

Pakistan's former Chief of Army Staff General Mirza Aslam Beg comments that "as regards the M-11 missile system that Pakistan is acquiring from China, it is covered within the six-nation agreement on Missile Technology Control to which China is a signatory. The missile has a range of less than 300km and is not capable of carrying a nuclear warhead. It is neither designed for nor has the required degree of accuracy."

—*The News* (Karachi), 6 December 1992, p. 4; in *Proliferation Issues*, 18 December 1992, p. 17; UPI, 5 December 1992; in Executive News Service, 7 December 1992; *Pakistan Times* (Rawalpindi), 10 December 1992, pp. 1, 8; in *Proliferation Issues*, 23 December 1992, p. 10.

4 December 1992

US intelligence analysts believe that Pakistan has been interested in acquiring the M-11 ballistic missile for a long time, to target India. Pakistan admits its potential to assemble at least one nuclear device and US intelligence analysts believe that Pakistan's nuclear arsenal consists of less than a dozen unassembled weapons. However, analysts express doubts if Pakistan has the capability to mount nuclear weapons on the M-11 missile.

— R. Jeffrey Smith, "China said to sell arms to Pakistan; M-11 Missile Shipment may break vow to U.S.," *Washington Post*, 4 December 1992, First Section, Page A10; in Lexis-Nexis Academic Universe, 4 December 1992, web.lexis-nexis.com; Jim Mann, "China said to sell Pakistan dangerous new missiles," *Los Angeles Times*, 4

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December 1992, Part A, p. 1, Column 5, Foreign Desk; in Lexis-Nexis Academic Universe, 4 December 1992, web.lexis-nexis.com.

4 December 1992

US intelligence analysts determine that China may have recently transferred approximately two dozen M-11 ballistic missiles to Pakistan; the missiles were photographed as they passed through the Pakistani port of Karachi. Other US intelligence analysts caution, however, that China may have transferred shorter-range solid-fueled ballistic missiles instead of the M-11. Furthermore, the missiles transferred may have been modified so as to make them incapable of delivering nuclear warheads. If China did indeed transfer M-11s to Pakistan, it would amount to a violation of its earlier pledge to US Secretary of State James A. Baker III to not transfer such systems. An M-11 sales brochure published in the mid-1980s by the China Precision Machinery Import and Export Company states that the M-11 is a 31-foot long missile and is capable of delivering an 800kg payload over a distance of 180 miles. —R. Jeffrey Smith, "China said to sell arms to Pakistan; M-11 Missile Shipment may break vow to U.S.," *Washington Post*, 4 December 1992, First Section, Page A10; in Lexis-Nexis Academic Universe, 4 December 1992, web.lexis-nexis.com; Jim Mann, "China said to sell Pakistan dangerous new missiles," *Los Angeles Times*, 4 December 1992, Part A, Page 1, Column 5, Foreign Desk; in Lexis-Nexis Academic Universe, 4 December 1992, web.lexis-nexis.com.

December 1992

Pakistan makes an \$83 million payment to China Precision Import/Export Corporation for unspecified "goods." US intelligence agencies believe that the "goods" are M-11 ballistic missile shipments. —Bill Gertz, *Betrayal: How the Clinton Administration Undermined American Security*, (Washington, DC: Regnery Publishing Inc., 1999), p. 268.

2 November 1992

An US company, CMI International Inc of Gaffney, Southern Carolina, pleads guilty in federal court for making false statements to a freight company in an attempt to ship missile fuse components to Pakistan. —Compiled from News Dispatches, "Plea on Export Charge," *Newsday* (Long Island, New York), 2 November 1992, p. 18; in Lexis-Nexis Academic Universe, 2 November 1992, web.lexis-nexis.com.

October 1992

A "senior Pentagon Asian specialist" says there are "indications" that China is violating the Missile Technology Control Regime (MTCR) by discussing possible M-9 and M-11 missile exports with Pakistan Syria, and that the Pentagon is "also concerned" that China may be discussing further "nuclear missile" exports with Iran. With regards to possible Syrian and Pakistani exports, the official says, "we are watching very closely." —"We are watching very closely," *Jane's Defence Weekly* (Coulsdon, Surrey), 10 October 1992, p. 18.

August 1992

North Korean Deputy Premier Foreign Minister Kim Yŏng Nam travels to Pakistan, where missile cooperation and the Nodong missile sales are on the agenda.

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—Joseph S. Bermudez, Jr., "A History of Ballistic Missile Development in the DPRK," Occasional Paper No. 2, James Martin Center for Nonproliferation Studies, November 1999, p. 21.

8 July 1992

Assistant US Attorney Amy Kurland says there was good evidence that Inam Ul-Haq directed a scheme to get 50,000 pounds of beryllium and a special type of steel called "maraging 350 steel" for export to Pakistan. Kurland further says that Ul-Haq was the driving force behind the scheme, even though no direct evidence was attributable against him.

—*Legal Intelligencer* (Philadelphia), 9 July 1992; in Lexis-Nexis Academic Universe, 2 September 1992, web.lexis-nexis.com.

7 July 1992

A US federal court convicts the retired Pakistani General Inam Ul-Haq of conspiring to obtain nuclear weapons-grade metal in violation of US export laws.

—*Legal Intelligencer* (Philadelphia), 9 July 1992; in Lexis-Nexis Academic Universe, 2 September 1992, web.lexis-nexis.com.

July-August 1992

North Korean Deputy Premier Foreign Minister Kim Yong Nam visits Syria (27-30 July), Iran (30 July-3 August), and Pakistan (4-7 August). Missile cooperation and North Korean sales of the Hwasŏng-6 and possibly Nodong missiles are on the agenda.

—Joseph S. Bermudez, Jr., "A History of Ballistic Missile Development in the DPRK," Occasional Paper No. 2, James Martin Center for Nonproliferation Studies, November 1999, p. 23.

16 June 1992

US Department of Commerce amends the Export Administration Regulations (EAR) and places tighter restrictions on a list of missile technology projects, countries, and regions. Pakistan's Hatf series missiles are included in the list. The new regulations stipulate that exports to the listed entities require a validated license.

—'Expansion of Foreign Policy Controls; Missile Technology Destinations 57 FR 26773," *Federal Register*, 16 June 1992; in Lexis-Nexis Academic Universe, 10 December 1991, web.lexis-nexis.com.

5 February 1992

Chinese Foreign Minister Qian Qichen refutes a foreign press report alleging China's sale of missile technology to Pakistan and Syria. Qichen terms the report as "false" and says that US Secretary of State James Baker did not know about this.

—"FM refutes reports on China selling missile technology," Xinhua General Overseas News Service, 5 February 1992; in Lexis-Nexis Academic Universe, 6 February 1992, web.lexis-nexis.com.

31 January 1992

China allegedly delivers guidance systems for M-11 ballistic missiles to Pakistan.

—"China said to sell Missile Technology," *Los Angeles Times*, 31 January 1992, Part A, p. 11, Column I, Foreign Desk; in Lexis-Nexis Academic Universe, 31 January 1992, web.lexis-nexis.com.

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January 1992

Retired Pakistani General Inam Ul-Haq is arrested in Germany on charges of attempting to obtain and export nuclear weapons-grade metal to Pakistan and extradited to the United States.

—*Legal Intelligencer* (Philadelphia), 9 July 1992; in Lexis-Nexis Academic Universe, 2 September 1992, web.lexis-nexis.com.

1992

Pakistan's Space and Upper Atmosphere Research Commission (SUPARCO) is building its second 50kg research satellite, Badr-B, to be launched in 1994. Chairman of the agency Sikandar Zaman says that an engineering test model of the indigenously built satellite is under construction. SUPARCO plans to launch this satellite as a "piggyback load" and is looking for potential launchers. Pakistan's first satellite, the 50kg Badr-A or Badr-1, was launched in July 1990 with the help of China's Long March 2E booster. The space agency also has a sounding rocket program and launches three to four rockets each year. The agency's two-stage, solid-fueled Shahpar rocket is capable of carrying a 55kg payload to altitudes in excess of 450km. The Shahpar measures 7m in length; its first stage has a diameter of 0.5m. SUPARCO's test range is located about 50km northwest of Karachi and has a total area of 200 hectares. The test range is equipped with mobile and fixed radars, a rocket and payload integration facility, and a launch control center. Plans are afoot to upgrade the test range to accommodate larger sounding rockets. SUPARCO employs 2,500 workers, of which approximately 10 percent are scientists and engineers. SUPARCO's Chairman Sikandar Zaman says that the agency has not produced any military versions of its sounding rockets.

—Paul Proctor, "Pakistan's Space Agency Building Second Experimental Satellite," *Aviation Week & Space Technology*, 10 August 1992, Vol. 137, No. 6 p. 46, Competition in Pakistan Skies; in Lexis-Nexis Academic Universe, 2 September 1992, web.lexis-nexis.com.

1992

Pakistani officials are seen in North Korea examining a prototype model of the Nodong-1. [Note: This report is unsubstantiated.]

—Bill Gertz, "Iran-Bound Mystery Freighter Carried Parts for Missiles," *Washington Times*, 16 July 1992, p. A3.

1992

US intelligence discovers the transfer of an M-11 training ballistic missile along with its accompanying transporter-erector-launcher to Pakistan. The transfer of a training missile suggests that operational missiles are likely to follow.

—Bill Gertz, "Missile Deception," *Betrayal: How the Clinton Administration Undermined American Security*, (Washington, DC: Regnery Publishing, Inc., 1999), p. 159.

1991

10 December 1991

A Chinese government spokesperson says that an agreement on peaceful application of space sciences and

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technology signed between relevant departments in China and Pakistan specifies cooperation in areas such as satellite technology and satellite launching service.

—"China, Pakistan to cooperate in peaceful applications of space technology," Xinhua General Overseas News Service, 10 December 1991; in Lexis-Nexis Academic Universe, 10 December 1991, web.lexis-nexis.com.

9 December 1991

China's Ministry of Aerospace Industry and Pakistan's Space and Upper Atmosphere Research Commission (SUPARCO) sign an agreement on cooperation in the peaceful use of aero-space sciences and technology.

—"China, Pakistan to cooperate in peaceful applications of space technology," Xinhua General Overseas News Service, 10 December 1991; in Lexis-Nexis Academic Universe, 9 December 1991, web.lexis-nexis.com.

5 December 1991

Chinese Foreign Minister and State Councilor Qian Qichen states that China supports Pakistan's initiative to hold a five-nation consultation on nuclear non-proliferation in South Asia. Mr. Qichen makes the statement to visiting Pakistani envoy and Secretary General of the Foreign Ministry, Mr. Akram Zaki. The proposed countries to be included in the consultations are: the United States, the Soviet Union, China, India, and Pakistan.

—"Chinese Foreign Minister meets special envoy of Pakistan Premier," Xinhua General Overseas News Service, 5 December 1991; in Lexis-Nexis Academic Universe, 5 December 1991, web.lexis-nexis.com.

20 November 1991

US officials investigating the international arms trading network of Carlos Cardoen, one of Chile's major arms makers, are attempting to verify if retired Pakistani General Talat Masood received \$250,000 from Mr. Guerin to conceal his schemes in the late 1980s. Mr. Guerin, a former major US arms dealer, is believed to have ties with Mr. Cardoen. Mr. Guerin is believed to have used one of Mr. Cardoen's plants in a scheme to book more than \$450 million in a phony missile deal with Pakistan. Law enforcement officials believe Mr. Guerin used a Pakistani General to vouch for his phony contract and suspect that General to be Gen. Masood. Gen. Masood is named in the indictment of Mr. Guerin but has not been charged.

—Andy Pasztor, "Investigators Say Chilean Dealer Smuggled US Weapons to Iraq," *Wall Street Journal*, 20 November 1991; in Lexis-Nexis Academic Universe, 20 November 1991, web.lexis-nexis.com.

18 November 1991

US Secretary of State James Baker concludes his three-day visit to China and says that China has made verbal commitments to "observe the guidelines and parameters" of the Missile Technology Control Regime (MTCR), as well as not to export M-9 and M-11 missiles to Syria and Pakistan. China agrees to observe MTCR guidelines if the United States lifts the sanctions imposed on two Chinese companies. The sanctions were imposed on 16 June and banned the sale of high-speed computers to China.

—Thomas L. Friedman, "Baker's China Trip Fails To Produce Pledge on Rights," *New York Times*, 18 November 1991, Section A, p. 1, Column 6, Foreign Desk; in Lexis-Nexis Academic Universe, 18 November 1991, web.lexis-nexis.com.

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21 October 1991

Addressing a group of industrialists in Karachi, eminent Pakistani scientist Dr. Abdul Qadir Khan, proclaims Pakistan to be a nuclear power. He, however, insists that Pakistan possesses nuclear technology but has not produced a nuclear bomb.

—'Scientist admits Pakistan is 'a nuclear power',' United Press International, 22 October 1991; in Lexis-Nexis Academic Universe, 22 October 1991, web.lexis-nexis.com.

17 July 1991

The United States imposes sanctions on two Chinese firms and a Pakistani entity for activities related to missile proliferation. The sanctioned entities are China Great Wall Industry Corporation; China Precision Machinery Import-Export Corporation; and Space and Upper Atmosphere Research Commission (SUPARCO, Pakistan).

—"Imposition of Missile Proliferation Sanctions Against Chinese and Pakistani Entities," *Federal Register*, 17 July 1991; in Lexis-Nexis Academic Universe, 17 July 1991, web.lexis-nexis.com.

27 June 1991

China's Ambassador to the United States Zhu Qizhen states that China supplied a small number of short-range missiles to Pakistan that do not threaten any country.

—"National Press Club Morning Newsmaker People's Republic of China's Ambassador to the US Zhu Qizhen," *Federal News Service*, 27 June 1991; in Lexis-Nexis Academic Universe, 27 June 1991, web.lexis-nexis.com.

25 June 1991

US Secretary of State James Baker officially determines that the China Great Wall Industry Corporation and China Precision Machinery Import-Export Corporation have conducted missile technology sales requiring the imposition of US sanctions.

—"The Credibility of China's Nonproliferation Pledges and United States Sanctions: 1984-1996," compiled by the minority staff, Senate Governmental Affairs Committee, Summer 1996.

20 June 1991

Chinese Foreign Ministry spokesperson Wu Jianmin confirms the sale of missiles to Pakistan but classifies the missiles to be "short-range tactical missiles with the range of about 200 kilometers." Stating that the missile range did not violate Missile Technology Control Regime (MTCR) stipulations, the spokesperson says there are different interpretations regarding missile ranges and hopes that a common understanding of the MTCR restrictions will be reached.

—David R. Schweisberg, "China acknowledges missile sale, claims short-range," United Press International, 20 June 1991; in Lexis-Nexis Academic Universe, 20 June 1991, web.lexis-nexis.com.

16 June 1991

US Undersecretary of State Reginald Bartholomew arrives in Beijing to hold talks with Chinese officials on Chinese missile sales to Middle Eastern and third world countries. The White House announces the implementation of previously announced sanctions on China. Sanctions are also implemented on two Chinese companies, the China Precision Machinery Import-Export Corporation and China Great Wall Industry Corporation, which reportedly

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supplied Pakistan with missile technology.

—"State Department Official Arrives in China for Talks on Arms Sales," Associated Press, 16 June 1991, International News; in Lexis-Nexis Academic Universe, 16 June 1991, web.lexis-nexis.com.

13 June 1991

US Secretary of State James A. Baker III warns China of "potentially profound consequences" if it concludes missile deals with Syria and Pakistan. A Pakistani official in Islamabad expresses hope that Pakistan will acquire M-11 missiles from China, despite US warning. The official mentions that talks are proceeding at various levels and says "We don't know if we are going to get them, (but) we hope we will get them."

—David Hoffman, "Selling Missile Technology would risk US wrath, Baker tells China," *Washington Post*, 13 June 1991, First Section, p. A36; in Lexis-Nexis Academic Universe, 13 June 1991, web.lexis-nexis.com.; "China voices support for Middle East arms reduction," Agence France Presse, 13 June 1991; in Lexis-Nexis Academic Universe, 13 June 1991, web.lexis-nexis.com.

11 June 1991

The Bush administration says that it intends to press Beijing to adhere to the Missile Technology Control Regime (MTCR) guidelines. According to US officials, the objective of the current effort is to stop the sale of Chinese missiles to Syria and Pakistan. US intelligence agencies note that the increase in the number of flight-tests for the M-9 and M-11 suggest that both missile systems are nearing completion of their development phase and might be sold to Syria and Pakistan.

—R. Jeffrey Smith, "US to Press China to Halt Missile Sales; Deals with Syria and Pakistan Opposed," *Washington Post*, 11 June 1991, First Section, p. A14; in Lexis-Nexis Academic Universe, 11 June 1991, web.lexis-nexis.com.

10 June 1991

Experts express concern that China may begin exporting two new kinds of ballistic missiles to other countries, including Syria and Pakistan. They cite paucity of funds as a major factor in China's bid to claim its share of the world market in missile sales.

—Nicholas D. Kristoff, "China said to plan Arms Sales; US is Concerned," *New York Times*, 10 June 1991, Section A, p. 1; Column 6; Foreign Desk; in Lexis-Nexis Academic Universe, 10 June 1991, web.lexis-nexis.com.

Summer 1991

A retired Pakistani General Inam Ul-Haq is arrested in Germany on charges of conspiring to obtain nuclear weapons-grade metal and export it to Pakistan. The General was indicted in 1987 on charges of violating US export laws.

—*Legal Intelligencer* (Philadelphia), 9 July 1992; in Lexis-Nexis Academic Universe, 2 September 1992, web.lexis-nexis.com.

28 May 1991

The White House announces the imposition of three new sanctions on China. The sanctions include denial of licenses to companies for selling 20 high-speed computers to China. The deal is worth \$30 million and the computers can be used for missile testing; denial of licenses to US companies wishing to participate in seven

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proposed satellite launches by China. Licenses will be denied as long as China does not abide by international regulations to curb proliferation of nuclear and missile technology; banning US companies from selling missile technology or equipment to the state-run Chinese Precision Machinery Import-Export Corporation. The move arises directly from the sale of missile technology and equipment by the corporation to Pakistan.

—Andrew Rosenthal, "Bush Renewing Trade Privileges For China, but Adds Missile Curbs," *New York Times*, 28 May 1991, Section A, p. 1, Column 4, Foreign Desk; in Lexis-Nexis Academic Universe, 28 May 1991, web.lexis-nexis.com.

Second Week of May, 1991

US Undersecretary of State Robert Kimmitt arrives in Beijing to hold talks with Chinese leaders on China's human right's record, trade issues, and arms trade with third world countries. Chinese officials inform Mr. Kimmitt that China has sold a ballistic missile with a range of less than 200 kilometers to Pakistan. The range is below the limits set by the Missile Technology Control Regime (MTCR) regulations and China is not a member of the MTCR agreement.

—"Senior US diplomat arrives in Beijing," Agence France Presse, 5 May 1991; in Lexis-Nexis Academic Universe, 12 May 1991, web.lexis-nexis.com; Don Oberdorfer, Ann Devroy, "Bush seeks to keep China Trade Status; Intense Debate on Benefits Expected," *Washington Post*, 16 May 1991, First Section, p. A1; in Lexis-Nexis Academic Universe, 16 May 1991, web.lexis-nexis.com.

1 May 1991

US President Bush bars the sale of US components for a Chinese domestic communications satellite. The move arises from concerns of Chinese proliferation of weapons of mass destruction to third world countries like Algeria and Pakistan. The president, however, allows the export of components for two other projects, Aussat and Freja, to launch satellites from China.

—Clyde H. Farnsworth, "Bush Denies Satellite Parts to China," *New York Times*, 1 May 1991, Section A, p. 15; in Lexis-Nexis Academic Universe, 1 May 1991, web.lexis-nexis.com; "China Rebuffed," *Aviation Week and Space Technology*, 6 May 1991, Vol 134, No. 18, p. 17; in Lexis-Nexis Academic Universe, 6 May 1991, web.lexis-nexis.com.

25 April 1991

Chinese Foreign Ministry spokesperson Wu Jianmin terms the alleged report that China provided short-range missiles to Pakistan "groundless." Mr. Jianmin also states, "China does not advocate or encourage nuclear proliferation or help other countries develop nuclear weapons."

—David R. Schweisberg, "China denies arms charges, hits US on retaliation," United Press International, 25 April 1991; in Lexis-Nexis Academic Universe, 25 April 1991, web.lexis-nexis.com.

8 April 1991

US officials say that the United States is trying to stop the sale of any new Chinese missiles to Pakistan. Two new missiles, the M-9 and M-11, are in the research and development phase. The M-9 has a range of 600 kilometers, while the M-11 has a range of 300 kilometers. Both the missiles are capable of carrying nuclear and conventional warheads.

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—"US trying to block China missile sales," *Journal of Commerce*, 8 April 1991; in Lexis-Nexis Academic Universe, 24 May 1988, web.lexis-nexis.com.

6 April 1991

A group of US legislators write a classified letter urging the Bush administration to impose trade sanctions on China under the Missile Technology Control Regime (MTCR) specifications.

—R. Jeffrey Smith, "Chinese Missile Launchers Sighted in Pakistan," *Washington Post*, 6 April 1991, First Section, p. A17; in Lexis-Nexis Academic Universe, 24 May 1988, web.lexis-nexis.com.

6 April 1991

US intelligence agencies spot a number of launchers for the Chinese M-11 ballistic missiles in Pakistan. According to US officials, the presence of the launchers points in the direction of a possible missile deal between Beijing and Islamabad, despite China's pledge not to transfer missile technology to Pakistan. Pakistan also considers displaying the missile launchers during a military parade, but drops the idea in the face of US complaints.

—R. Jeffrey Smith, "Chinese Missile Launchers Sighted in Pakistan," *Washington Post*, 6 April 1991, First Section, p. A17; in Lexis-Nexis Academic Universe, 24 May 1988, web.lexis-nexis.com.

27 March 1991

Chinese Foreign Minister Qian Qichen indicates that China should not be expected to follow Missile Technology Control Regime (MTCR) obligations since it did not sign the agreement. Rejecting MTCR's applicability to China, Qian states "As for China's arms exports, in this China has always been acting in a very prudent and responsible way." Qian further calls upon the largest weapons exporters to "adopt responsible and effective measures of self-restraint."

—James L. Tyson, "China Will Ignore US Pressure to Stop Selling Its Missiles," *Christian Science Monitor*, 29 March 1991, p. 6; in Lexis-Nexis Academic Universe, 29 March 1991, web.lexis-nexis.com.

12 March 1991

US Assistant Secretary of State Richard Solomon, concluding his two-day visit to China, states that China has agreed to honor Missile Technology Control Regime (MTCR) parameters. He also says China has to be a player in a "multilateral mechanisms" to control proliferation of arms.

—James L. Tyson, "China Will Ignore US Pressure to Stop Selling Its Missiles," *Christian Science Monitor*, 29 March 1991, p. 6; in Lexis-Nexis Academic Universe, 29 March 1991, web.lexis-nexis.com.

Early 1991

A secret US Defense Intelligence Agency (DIA) study on China's policy of selling high-technology missiles and other arms to the developing world concludes that China's public statements of limiting its arms sales should not to be believed. A Bush administration official familiar with the contents of the report says the report indicates that China will sell missiles to "whoever can pay for them." US administration officials say the recent deal between China and Pakistan on M-9 and M-11 ballistic missiles violates the 1988 Chinese pledge made to the then-Secretary of Defense Frank Carlucci not to sell militarily significant technology to the developing world. US officials also indicate that a shipment of Chinese M-11 missiles will be delivered to Pakistan later this year. Chinese M-9 missiles (375-

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mile range) were delivered to Pakistan earlier this year.

—Bill Gertz, "China can't say no to arms buyers," *Washington Times*, 28 May 1991, Part A, p. A1; in Lexis-Nexis Academic Universe, 28 May 1991, web.lexis-nexis.com.

1990-1985

9 October 1990

Documents provided to US administration officials and congressional investigators detail Pakistan's attempts to acquire US-made high-temperature furnaces. The furnaces can be used to make nuclear materials to build a bomb or to make metals to produce missiles capable of delivering nuclear weapons. The furnaces sought by Pakistan are manufactured by Consarc Corp. of Rancocas, New Jersey. The documents reveal Pakistan's repeated attempts to acquire these furnaces. On 2 February 1990, Pakistan's Embassy in France contacted Consarc's British subsidiary to buy arc melting furnaces that cost \$3 million per piece. However, the company informed S. Muhtar Ahmed in Pakistan's Embassy in Paris that it could not get an export license to ship the furnaces. At about the same time in February, Central Diagnostics Inc., a Toronto-based consulting firm with Pakistani links, approached Al Ferrari, a Consarc salesperson, about supplying the furnaces for making high-quality steel suitable for surgical equipment. An official at Central Diagnostics Inc., however, denies his firm's links with Pakistan's nuclear program and says that the order was not carried out since the equipment was too costly for Pakistan's surgical industry. Pakistan continued its efforts to buy the furnaces when its Directorate of Technical Procurement approached Consarc's British branch to buy six furnaces. The request was rejected, citing British export control laws. Following the rejections, Pakistan tried to procure the furnaces through the Swiss firm Fernhandels. The company made two requests to Consarc to acquire high-temperature furnaces. It made the first request four days after Consarc turned down the request from Pakistan's Embassy in Paris. The requirements provided by the Swiss firm exactly match the Pakistan Embassy's request. Fernhandels placed another request three weeks after the first request, mentioning the same specifications made by Pakistan's Directorate of Technical Procurement. Both requests were subsequently denied.

—Stuart Auerbach, "Pakistan Tried to Buy Nuclear Aids; Attempts to Purchase Furnaces Detailed," *Washington Post*, 10 October 1990; in Lexis-Nexis Academic Universe, 10 October 1990, web.lexis-nexis.com.

August 1990

US officials inform British authorities about Pakistan's attempts to buy high-temperature furnaces from German and British manufacturers. Pakistan is also apparently trying to buy these furnaces from an US company. These high-temperature furnaces can be used to make nuclear weapons.

—Stuart Auerbach, "Pakistan Tried to Buy Nuclear Aids; Attempts to Purchase Furnaces Detailed," *Washington Post*, 10 October 1990; in Lexis-Nexis Academic Universe, 10 October 1990, web.lexis-nexis.com.

4 April 1990

Arshad Z. Pervez is convicted in the US District Court for the Eastern District of Pennsylvania of violating the Export Administration Act of 1979. Pervez is charged with attempting to export maraging steel to Pakistan, in apparent violation of US export laws. Pervez along with a retired Pakistani General Inam Ul-Haq were indicted in 1987 on the

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same charges.

—"Action Affecting Export Privileges; Arshad Z. Pervez; Order Denying Permission To Apply for or Use Export Licenses," *Federal Register*, 20 April 1993; in Lexis-Nexis Academic Universe, 20 April 1993, web.lexis-nexis.com.

6 February 1989

In an address to officers of the Pakistani Army, Pakistan's Chief of Army Staff General Mirza Aslam Beg announces that Pakistan has recently flight-tested two indigenously manufactured missiles. Providing details about the range and payload of the missiles, he states that the missiles have a range of 50 miles and 185 miles, respectively; furthermore, both missiles can carry a payload of 1,100 pounds. However, Beg does not provide details on the timing and location of the tests. General Beg also asserts that the guidance systems used in the missiles were extremely accurate and developed in Pakistan.

—Ahmed Rashid, "Pakistan announces first successful test of its own missile," *Independent* (London), 6 February 1989; in Lexis-Nexis Academic Universe, 6 February 1989, web.lexis-neixs.com.

December 1988

Benazir Bhutto becomes prime minister of Pakistan and supports the acquisition of missiles from China and extending bilateral ties between Pakistan and North Korea in the nuclear and missile fields.

—Joseph Bermudez, "A silent partner," *Jane's Defense Weekly*, 20 May 1998.

25 May 1988

US Defense Department spokesperson Dan Howard questions reports about Pakistan's reported April 1988 ballistic missile test. With reference to the reported missile test, Howard says, "I certainly don't have any evidence of that." Another senior Reagan administration official adds that Pakistan does not possess missiles capable of delivering nuclear munitions. However, the *New York Times* reported earlier that a Reagan administration official had confirmed reports of a missile test by Pakistan.

—"Pentagon questions missile test report," *St. Petersburg Times* (Florida), 25 May 1988; in Lexis-Nexis Academic Universe, 25 May 1988, www.lexis-nexis.com; "U.S. casts doubt on Pakistan missile," Reuters, 25 May 1988; in Lexis-Nexis Academic Universe, 25 May 1988, web.lexis-nexis.com.

25 May 1988

Pakistan flight-tests a ballistic missile at a test range in the Thar Desert in southern Pakistan. The missile is capable of carrying a nuclear warhead and is designed to reach Mumbai and New Delhi. A Pakistani government official says that the missile was of "home design" but produced with the assistance of Chinese experts.

—"News Summary," *New York Times*, 24 May 1988, www.nytimes.com; Lionel Barber, "Pakistan Tests 'Nuclear' Missile," *Financial Times* (London), 25 May 1988, www.ft.com; "Pakistan test-fires A-weapon missile U.S. journal reports," AP, 24 May 1988; in Lexis-Nexis Academic Universe, 24 May 1988, web.lexis-nexis.com.

24 May 1988

The Pakistani report of the 24 May missile-test suggests that Pakistan has components for 42 missiles. It also refers to a "two-stage" missile. However, analysts believe that the two stages actually constitute two separate missile systems. The first missile, which probably measures 20ft in length, has a range of 50 miles; the second, which is a

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32ft missile, has a range of 186 miles. Analysts speculate that the missiles in question are most likely Soviet Frog and Scud missiles; both missiles were designed by the Soviet Union to deliver nuclear munitions.

—Bernard E. Trainor, "Pakistan Accused of Nuclear Move, *New York Times*, 24 May 1988, Section A, p. 1; in Lexis-Nexis Academic Universe, 24 May 1988, web.lexis-nexis.com.

24 May 1988

According to the International Institute for Strategic Studies' annual survey, Pakistan has very few missiles. Pakistan's Army possesses multiple rocket launchers; its Air Force is armed with air-to-air and air-to-surface missiles; the Navy has surface-to-air missiles.

—Bernard E. Trainor, "Pakistan Accused of a Nuclear Move," *New York Times*, 24 May 1988, Section A, p. 1; in Lexis-Nexis Academic Universe, 24 May 1988, web.lexis-nexis.com.

14 August 1987

A US Congressional library report says many countries are developing or have already developed ballistic missile technologies. The countries included India, Pakistan, South Korea, Taiwan, Argentina, Brazil, Israel, and South Africa.

—"South Korea, Taiwan, India developing ballistic missiles," US Congressional Library, 15 August 1987; in Lexis-Nexis Academic Universe, 15 August 1987, <http://web.lexis-nexis.com>.

April 1986

A report by the Congressional Research Service (CRS) predicts that missiles will be deployed in most regions of the world in the near future. The report states that many nations are using their space programs to build missiles. The report also warns of the possibility of third world nations armed with nuclear-tipped missiles since many nations have both an active nuclear program as well as a missile program. The nations included in the list are Israel, India, Pakistan, Syria, Egypt, Iraq, Libya, Taiwan, South Korea, North Korea, Brazil, and Argentina.

—"Third world developing missiles, report warns," *Toronto Star* (Toronto), 28 April 1986, News, Pg. A11; in Lexis-Nexis Academic Universe, 28 April 1986, <http://web.lexis-nexis.com>.

1985-1960

Early September 1981

Intelligence reports indicate that Orbital Transport und Raketen Aktien-Gesellschaft (OTRAG), a Munich-based German company, is using its peaceful rocket program as a front to sell defense equipment, including short-range missiles to countries like Pakistan, Libya and Iraq.

—Judith Miller, "Industry Enters a Twilight Zone," *New York Times*, 13 September 1981, Section 4, p. 2, Column 3, in Review Desk; in Lexis-Nexis Academic Universe, 13 September 1981, <http://web.lexis-nexis.com>; William Safire, "The Islamic Bomb," *New York Times*, 1 October 1981, Section A, Page 35, Column 1, Editorial Desk; in Lexis-Nexis Academic Universe, 1 October 1981, <http://web.lexis-nexis.com>.

1980s

Cooperation between Pakistan and North Korea on ballistic missiles begins during the Iran-Iraq War as scientists

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and advisors from both countries assist in Iran's missile program.

—Joseph Bermudez, "A silent partner," *Jane's Defense Weekly*, 20 May 1998.

3 October 1976

Pakistani businessman Arif Durrani is arrested on charges of selling Hawk missile parts to Iran. Durrani operates an aircraft parts business in California.

— "Man Convicted in Missile Parts Sale to Iran Despite Claimed NSC Role," *Los Angeles Times*, 3 April 1987, p. 30, in Lexis-Nexis, <http://web.lexis-nexis.com>.

1976

Pakistan and North Korea sign a protocol on technical cooperation.

—Lee Chae Sŭng, *Pukhan'ül Umjig'i'nŭn Technocrat* (Seoul: Ilbit, 1998), p. 442.

1971

The Iran Electronics Industries (IEI) contracts Texas-based Emerson Energy Systems to repair TOW and FGM-77A dragon missile systems for Pakistan and Yemen.

—Ann Tibbitts Schulz, *Buying Security: Iran Under the Monarchy* (San Francisco: Westview Press, 1989), p. 57.

Late 1960s

The Shah of Iran opens the Iran Electronics Industries (IEI) missile repair facility in Shiraz to Pakistan.

—Ann Tibbitts Schulz, *Buying Security: Iran Under the Monarchy* (San Francisco: Westview Press, 1989), p. 54.

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