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*Chinese Proliferation of Weapons of Mass Destruction:  
Background and Analysis*

Shirley A. Kan, Foreign Affairs and National Defense Division

Updated September 13, 1996

**Abstract.** Congress has been concerned about Chinese missile, nuclear, and chemical-related transfers. In 1991 and 1993, the U.S. government twice determined Chinese violations of the Missile Technology Control Regime guidelines, and determined both cases to have involved transfers of Category II missile components for the M-11 short-range ballistic missile to Pakistan. Although the Nuclear Nonproliferation Treaty (NPT) does not ban peaceful nuclear projects, certain Chinese nuclear transfers to Pakistan and Iran may have violated the NPT and/or U.S. laws. In 1995, China reportedly sold to Pakistan unsafeguarded ring magnets that could be used for uranium enrichment. The Clinton Administration decided that U.S. sanctions were not warranted. Since 1992, China has responded to U.S. and other pressures to participate in some parts of international nonproliferation regimes.

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September 13, 1996

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# Chinese Proliferation of Weapons of Mass Destruction: Background and Analysis

## Summary

To assist congressional deliberations, this report sets forth the background on and analysis of Chinese technology transfers suspected of contributing to the proliferation of weapons of mass destruction. For a discussion of policy options and approaches, see the related Issue Brief 92056, *Chinese Proliferation of Weapons of Mass Destruction: Current Policy Issues*.

The issue of Chinese proliferation involves three aspects: China's support for nonproliferation efforts, China's transfers that promote proliferation, and vertical proliferation (modernization of China's WMD and missile programs).

Since 1992, China has responded to U.S. and other pressures to participate in some parts of international nonproliferation regimes. China promised to abide by the Missile Technology Control Regime (MTCR), which is not a treaty, but a set of guidelines. China also acceded to the Nuclear Nonproliferation Treaty (NPT) and signed the Chemical Weapons Convention (CWC). However, it is not a member of the MTCR, Zangger Committee, Nuclear Suppliers Group, Australia Group, or the Wassenaar Arrangement. The pressures to join nonproliferation efforts that China faced in the early 1990s have weakened, while its commitment to nonproliferation is unclear.

Chinese missile-related transfers have not violated any international treaties, since the MTCR is not a treaty, but have violated Chinese pledges and U.S. laws. In 1991 and 1993, the U.S. government twice determined Chinese violations of the MTCR guidelines, and determined both cases to have involved transfers of Category II missile components for the M-11 short range ballistic missile to Pakistan. The Administration has not determined violations for Chinese missile-related sales to Syria or Iran. Since the 1987 sale of CSS-2 intermediate range ballistic missiles to Saudi Arabia, the executive branch has not determined that China supplied complete missiles to another country. Nevertheless, concerns remain about Chinese missile technology transfers.

Although the NPT does not ban peaceful nuclear projects, certain Chinese nuclear transfers to Pakistan and Iran may have violated the NPT and/or U.S. laws. In 1995, China reportedly sold unsafeguarded ring magnets to Pakistan. The Clinton Administration decided that U.S. sanctions were not warranted.

Chemical weapon-related transfers would not violate any treaty, since the CWC has not entered into force. However, they may defy U.S. laws which may require sanctions. Transfers of biological agents for weapon programs would violate the Biological Weapons Convention and U.S. laws.

China's acquisition of Russian or other advanced technology or Chinese development of new missiles and WMD would challenge efforts to stem their proliferation. There are concerns about possible re-transfers of advanced Russian technology as well as transfers of new technology developed in China.

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# Chinese Proliferation of Weapons of Mass Destruction: Background and Analysis

## Introduction: Defining the Problem

### Policy Issues for Congress

Especially since 1991, Congress has been particularly concerned about Chinese transfers suspected of contributing to the proliferation of weapons of mass destruction (WMD). This proliferation problem refers to the threat of nuclear, chemical, or biological weapons and missiles that could deliver them. Chinese proliferation as a policy issue concerns the Administration's response, including the enforcement of nonproliferation laws, and possible legislation to reduce the danger. U.S. sanctions have been considered and/or imposed in some cases. While certain Chinese transfers may not violate any international agreements, they may violate U.S. laws. Numerous laws set U.S. policy and aim to enforce nonproliferation regimes with unilateral sanctions if there is a determination of Chinese violations. The most important are the Arms Export Control Act (AECA) (P.L. 90-629), Export Administration Act (EAA) (P.L. 96-72), and the Export-Import Bank Act (P.L. 79-173). See the appendix for the most relevant sections.

In addition to national security interests and implementation of U.S. laws, the problem of Chinese proliferation has impacts on the bilateral relationship with China, U.S. policy toward Taiwan, U.S. and multilateral export controls and high-technology transfers to China, international nonproliferation regimes, and missile defense policy.

To assist Congressional deliberations on this issue, this report sets forth the background on and analysis of Chinese transfers suspected of contributing to the proliferation of WMD. For a discussion of policy options and competing approaches, see the related Issue Brief 92056, *Chinese Proliferation of Weapons of Mass Destruction: Current Policy Issues*.

The following section will review how concerns about proliferation have intensified since 1991, why Chinese transfers are particularly dangerous to U.S. regional security interests in the Middle East and South Asia, and define three aspects of the problem of Chinese proliferation. The report will then discuss Chinese support for nonproliferation efforts as well as proliferation activities in detail. China's possible rationales and related policy constraints that affect its proliferation transfers will also be examined. Finally, the last section will draw some lessons learned about

Chinese proliferation activities and China's approach to nonproliferation. Also see the appendix for relevant sections of U.S. laws.

## **Proliferation Threat**

President Clinton has stated that “the proliferation of weapons of mass destruction (WMD) continues to pose an unusual and extraordinary threat to the national security, foreign policy, and economy of the United States.”<sup>1</sup> CIA Director John Deutch testified in February 1996 that “free nations of the world are threatened by rogue states — Iran, Iraq, North Korea, and Libya — that have built up significant military forces and seek to acquire weapons of mass destruction: nuclear, chemical, and biological.”<sup>2</sup> A main concern is the risk of U.S. or allied troops facing WMD on the battlefield. The 1991 Persian Gulf War against Iraq strongly demonstrated the danger posed by secret WMD programs. Only after the war did the world learn of Iraq's WMD efforts, despite safeguards and treaties. Many concluded it is essential to strengthen and expand nonproliferation regimes.

As one of five declared nuclear-weapon powers and a supplier of sensitive equipment and technology, China has played a critical role in supporting nonproliferation efforts as well as the proliferation of WMD and the missiles that could deliver them. China, especially since 1992, has responded to some extent to U.S. and other pressures to make progress in joining some international nonproliferation efforts. China has also maintained that it has not legally violated any international agreements. Yet, there is evidence indicating that certain Chinese technology transfers have violated China's commitment, undermined the nonproliferation regimes, and/or defied U.S. laws.

## **Heightened Concerns**

Throughout the 1980s, Chinese missile and nuclear technology exports, including CSS-2 intermediate-range missiles to Saudi Arabia, Silkworm anti-ship missiles to Iran, and nuclear technology to Pakistan, conflicted with U.S. foreign policy goals. Chinese assurances regarding exports were vague and unsatisfactory, but Washington moderated its criticism of Beijing in part due to China's strategic importance in counterbalancing Moscow.

Several events, however, dramatically changed U.S. perceptions. The 1989 Tiananmen Square crackdown froze U.S.-China relations and raised human rights as a central issue. The end of the Cold War in 1991 reduced China's strategic importance and provided openings for arguments favoring a tougher U.S. policy toward China on proliferation, human rights, and trade. After the 1991 Persian Gulf War, revelations about Iraq's advanced missile, chemical, and nuclear weapons programs heightened worldwide concerns about the spread of WMD technology and

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<sup>1</sup> U.S. Congress. House. Continuation of the National Emergency with Respect to Weapons of Mass Destruction. Message from the President of the United States, House Document 104-131, 104th Congress, 1st Session. Washington, G.P.O., 1995.

<sup>2</sup> U.S. Congress. Senate. Select Committee on Intelligence. Worldwide Threats to U.S. National Security. Hearing, February 22, 1996. Washington.

dual-use supplies. Disclosures in the early 1990s about Chinese missile and nuclear technology transfers to countries such as Algeria, Pakistan, and Iran also added impetus to international criticism of China.

In 1992, after the U.S. imposed some sanctions and threatened others, China signed the Nuclear Nonproliferation Treaty and agreed to abide by the Missile Technology Control Regime. In 1994, Beijing reaffirmed the latter commitment in a joint statement with Washington, and, in 1996, issued another statement about selling only safeguarded nuclear technology. Nevertheless, it is uncertain whether China is in full compliance with all of its commitments.

## **Dangers of Chinese Transfers**

China's transfers of technology are dangerous on several counts.

- Technology transfers advance the indigenous capabilities of recipients to manufacture their own missiles or WMD and potentially make sensitive sales to others. China has pursued such sales in part because technology transfers or allowing scientists to work with customers do not necessarily violate international treaties.
- China does not appear to recognize missiles as destabilizing and has been willing to supply missile technology, if not entire missiles.
- It is troubling that China has been willing to supply dual-use nuclear and chemical components (with civilian and military applications) to countries suspected of pursuing WMD programs. Iraq demonstrated that a lot of commercially available technology can be applied to WMD programs, and clandestine nuclear weapon programs can proceed despite IAEA safeguards.
- Secrecy has shrouded many of China's nuclear exports (especially to Iran and Pakistan) and its exports of missiles or related technology.
- Beijing is believed to be modernizing its WMD and has increasingly bought weapon systems from Moscow. There are concerns of possible re-transfers of more advanced technology.

## **Three Aspects of the Issue**

The issue of Chinese proliferation involves three aspects: China's support for nonproliferation efforts, China's transfers that promote proliferation, and vertical proliferation (modernization of China's WMD and missile programs).

First, to what extent has China supported international nonproliferation efforts? Partly in response to U.S. pressure, including imposition of sanctions, China has



made progress since 1992 in playing a role in nonproliferation regimes. However, there are still gaps in China's participation in those efforts.

Second, how has China contributed to the proliferation danger? The evidence is persuasive that China has contributed to the danger of the proliferation of WMD. China reportedly has provided equipment and technology related to missiles and/or nuclear, chemical, or biological weapons to Pakistan, Iran, Syria, Saudi Arabia, and others.

Third, has China engaged in vertical proliferation, modernizing its missile and WMD arsenals? As opposed to the horizontal proliferation of weapons know-how between states, vertical proliferation is the creation of new weapon types by a declared nuclear weapon state. There are concerns about Chinese modernization of its strategic missiles and nuclear weapons as well as maintenance of chemical and biological weapon programs.

## **Support for Nonproliferation Efforts**

Since 1992, China has responded to U.S. and other pressures to make progress in participating in some parts of international nonproliferation regimes. One U.S. goal is to expand China's participation to other key elements of the missile, nuclear, chemical, and biological nonproliferation regimes.<sup>3</sup> China's support is also important for regional nonproliferation efforts focusing on North Korea, the Middle East, and South Asia. A table summarizes the extent of China's participation in nonproliferation treaties or groups.

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<sup>3</sup> A regime is a set of international treaties, multilateral and bilateral agreements, and domestic laws of participating countries. For more information, see: CRS Report 95-547F, Proliferation Control Regimes: Background and Status; U.S. Senate. Committee on Governmental Affairs. Nuclear Proliferation Factbook. by the Congressional Research Service, December 1994. Washington.

## Chinese Participation in Nonproliferation Regimes

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### **Missile Technology Control Regime**

Made a unilateral pledge in February 1992 to observe the original guidelines; on October 4, 1994, reaffirmed this commitment in a joint statement with the United States. Has not promised to adhere to revised guidelines. Not a member or adherent for purposes of MTCR or U.S. laws.

### **International Atomic Energy Agency**

Became a member in 1984.

### **Nuclear Nonproliferation Treaty**

Acceded on March 9, 1992.

### **Zangger Committee**

Not a member.

### **Nuclear Suppliers Group**

Not a member.

### **Comprehensive Test Ban Treaty**

Has supported negotiations, but had raised objections regarding “peaceful nuclear explosions” and on-site inspections. Declared moratorium on nuclear testing on July 29, 1996.

### **Chemical Weapons Convention**

Signed on January 13, 1993, but has not ratified.

### **Australia Group**

Not a member.

### **Biological Weapons Convention**

Acceded in 1984.

### **Wassenaar Arrangement**

Not a member.

## **Missile Nonproliferation Regime**

**Missile Technology Control Regime.** In April 1987, Canada, France, West Germany, Italy, Japan, the United Kingdom, and the United States established the Missile Technology Control Regime (MTCR) as a set of guidelines to control the export of equipment and technology that could contribute to a missile system capable of delivering nuclear weapons. The MTCR guidelines cover missiles capable of delivering a 500 kg (1,100 lb) warhead to 300 km (186 miles). The MTCR is not a treaty or executive agreement, and has no organization that monitors compliance (like the International Atomic Energy Agency). States adhering to the MTCR have agreed to guidelines that call for restraint in exports of items and technologies listed in the MTCR Equipment and Technology Annex. Category I of the Annex covers

complete missile systems, major subsystems, and related production facilities and equipment. Category II lists usable components, equipment, material, and technology. The number of members, or partners, has expanded to 28 countries.

On January 7, 1993, MTCR members issued new, expanded guidelines to cover missiles capable of delivering all weapons of mass destruction (nuclear as well as chemical and biological weapons). The MTCR calls for “a strong presumption to deny” transfers of Category I items. There is now also a “strong presumption to deny” Category II items as well as any missiles judged to be intended for the delivery of any weapon of mass destruction. Without that judgment, the MTCR calls for restraint in Category II transfers.

China is not an MTCR member. One of China’s complaints has been that it was not invited to be one of the original members which established the guidelines. Some in policy circles have advocated that China become a member, in order to increase its commitment. In November 1991, then-Secretary of State James Baker said that China agreed to adhere to the MTCR guidelines, as part of an agreement to waive U.S. sanctions. On February 1, 1992, the Chinese Foreign Minister reportedly sent the pledge as requested in writing, but that letter has never been made public.

On October 4, 1994, as part of another agreement to waive a second set of sanctions, Secretary of State Christopher and Chinese Foreign Minister Qian Qichen signed a “joint statement” (this time made public and issued by both sides) that China will not export “ground-to-ground missiles” that are “inherently capable” of delivering at least 500 kg to at least 300 km.<sup>4</sup> There is no binding commitment in the form of an international agreement between the United States and China concerning China’s adherence. China has not agreed to the revised MTCR guidelines established in 1993.

## **Nuclear Nonproliferation Regime**

**International Atomic Energy Agency.** The IAEA is affiliated with the United Nations. The agency verifies compliance with the Nuclear Nonproliferation Treaty (NPT) and provides peaceful nuclear technology assistance to developing nations. The IAEA tries to verify that nuclear facilities and materials are not being diverted for nuclear weapon programs by implementing audits and on-site inspections, or safeguards. Since 1991, Iraq’s and North Korea’s successes in circumventing IAEA safeguards to pursue nuclear weapons programs have shown weaknesses in the safeguards system. There have been calls for strengthening IAEA’s authority.

China has made nuclear nonproliferation pledges since 1984. While opposing the NPT, China applied for IAEA membership in September 1983<sup>5</sup> and became a member in 1984. At that time, China made its first pledge not to contribute to nuclear proliferation. In his address to the general conference of the IAEA, the chairman of the Chinese delegation, who was also the minister of nuclear industry,

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<sup>4</sup> The Chinese term of “ground-to-ground” missiles refers to surface-to-surface missiles.

<sup>5</sup> Sweeney, Padraic. China was Admitted to the IAEA Tuesday. *Nucleonics Week*, October 13, 1983. p. 6-7.

said that China will “take a discreet and responsible attitude so as to ensure that (nuclear) cooperation is solely for peaceful purposes.” He also said that China “will, in exporting its nuclear materials and equipment, request the recipient countries to accept safeguards in line with the principles established in the agency’s statutes.”<sup>6</sup>

**Nuclear Nonproliferation Treaty.** The NPT entered into force in 1970 and currently has 182 signatories. The treaty aims to freeze the number of “nuclear-weapon states” at five (United States, Soviet Union/Russia, Great Britain, France, and China). These countries detonated nuclear devices before 1967. All other parties are to remain as “non-nuclear-weapon states.” In theory, any non-nuclear-weapon state’s perceived security need for nuclear weapons is mitigated by a commitment by its rival non-nuclear-weapon state not to acquire nuclear weapons. To ensure compliance, the NPT requires that non-nuclear-weapon states comply with IAEA safeguards.<sup>7</sup> The NPT does not prohibit peaceful nuclear projects.

For a long time, China, in a show of unity with the Third World, opposed the NPT as discriminating against developing countries. However, when shunned by Western countries after the June 1989 Tiananmen crackdown and increasingly criticized about its nuclear exports in wake of the Persian Gulf War, Premier Li Peng announced on August 10, 1991, that China “has in principle” agreed to sign the NPT. China acceded to the NPT on March 9, 1992. In its instrument of accession, China stated that it “pursues a policy of not advocating, encouraging, or engaging in the proliferation of nuclear weapons, nor helping other countries to develop nuclear weapons.”<sup>8</sup> Among the countries which have received Chinese nuclear exports, Pakistan is not a party to the NPT and Algeria was not a party until January 1995. Iran, Iraq, and Syria signed the NPT in 1968.

China is now bound by the treaty. Article I of the NPT states that “each nuclear-weapon State Party to the Treaty undertakes not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly; and not in any way to assist, encourage, or induce any non-nuclear-weapon State to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices.” Article III contains a stipulation that “each State Party to the Treaty undertakes not to provide: (a) source or special fissionable material, or (b) equipment or material especially designed or prepared for the processing, use or production of special fissionable material, to any non-nuclear-weapon State for peaceful purposes, unless the source or special fissionable material shall be subject to the safeguards required by this Article.”

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<sup>6</sup> MacLachlan, Ann. China Makes Strong Nonproliferation Pledge in IAEA Conference Address. *Nucleonics Week*, September 27, 1984. p. 4.

<sup>7</sup> For more information, see: Spector, Leonard S., Mark G. McDonough, and Evan S. Medeiros. *Tracking Nuclear Proliferation*. Washington, Carnegie Endowment for International Peace, 1995.

<sup>8</sup> “Text” of Accession to Non-Proliferation Treaty. Xinhua News Agency, March 11, 1992, translated in FBIS-CHI, March 16, 1992. p. 1.

**Zangger Committee.** China has not joined the Zangger Committee, or Nuclear Exporters Committee, which has established guidelines for export control of nuclear items in Article III of the NPT. Since the 1970s, the committee has compiled a “trigger list,” or list of nuclear items which if transferred would trigger a requirement for IAEA safeguards. This list helps to prevent diversion of nuclear materials and especially designed or prepared material, equipment, and facilities to programs making nuclear explosives. The Committee has no legal authority.

**Nuclear Suppliers Group.** The NSG is a voluntary, multilateral effort to harmonize and strengthen the export controls of supplier countries on all, including dual-use, nuclear technology. Currently, 31 members agree on common norms to augment IAEA safeguards on fissile materials. One gap in international efforts has been the absence of China in the NSG. Thus, China does not join NSG members in requiring “full-scope safeguards,” or IAEA inspections of all other declared nuclear materials and facilities in addition to the facility importing supplies.

**Comprehensive Test Ban Treaty.** China detonated its first nuclear weapon in October 1964. Since then, it has conducted at least 45 nuclear tests. The latest Chinese nuclear test took place on July 29, 1996. On the same day, China declared a voluntary moratorium on nuclear testing, starting on July 30, 1996.<sup>9</sup> The statement did not say how long this moratorium would last. China was the last of the five nuclear powers to declare a moratorium on nuclear testing.

China’s final nuclear test and announcement of a moratorium took place during negotiations to conclude a Comprehensive Test Ban Treaty (CTBT), which would ban nuclear testing globally. China has participated in the CTBT negotiations and has called for the destruction of all atomic weapons by all states. During negotiations at the Conference on Disarmament (CD) in Geneva, China had demanded that so-called “peaceful nuclear explosions” be exempt. Isolated in this regard, China on June 6, 1996, withdrew this demand. On August 1, 1996, the Chinese Ambassador to the CD raised objections about on-site inspections. He insisted that spies cannot be used to trigger inspections in another country. China also wanted more than a simple majority vote of a governing panel to order on-site inspections in a country suspected of violations. Instead, China called for a two-thirds majority, or 34 members. The United States and China negotiated a compromise whereby on-site inspections would be carried out if 30 of the 51 members agreed. As part of the agreement, China promised to support an effort to bypass India’s objections by presenting the treaty text to the United Nations General Assembly in New York and to encourage Pakistan to accept the treaty.<sup>10</sup>

**Fissile Material Production.** On October 4, 1994, along with the joint statement on the MTCR, the United States and China issued a joint statement on stopping production of fissile materials for nuclear weapons. China agreed to work with the United States “to promote the earliest possible achievement of a multilateral,

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<sup>9</sup> Dickie, Mure. Final China Nuclear Blast Heralds Test Moratorium. Reuters, July 29, 1996.

<sup>10</sup> Smith, Jeffrey R. Geneva Negotiators Clear Hurdle in Test Ban Talks. Washington Post, August 7, 1996. p. 24.

non-discriminatory, and effectively verifiable convention banning the production of fissile materials for nuclear weapons or other nuclear explosive devices.”

## CW and BW Nonproliferation Regimes

**Chemical Weapons Convention.** The CWC would ban the development, production, stockpiling, and use of chemical weapons (CW) by its signatories and require the destruction of all chemical weapons and production facilities. The convention would also control the export of certain chemicals. The CWC will come into force 180 days after 65 countries ratify it.<sup>11</sup>

Along with more than 120 countries, China became a signatory to the CWC on January 13, 1993. Signing for China, Foreign Minister Qian Qichen said that “China has consistently stood for the complete prohibition and thorough destruction of all chemical weapons at an early date, and it has worked tirelessly along with other countries in making positive contributions to the signing of the ‘convention’.”<sup>12</sup> China has not ratified the convention.

**Australia Group.** Began in 1985, the Australia Group is an informal gathering of 29 countries to coordinate export controls on chemicals that could be used to manufacture chemical weapons. The Australia Group has no international treaty nor organization. It established a list of chemicals and equipment that are controlled. China is not a member of this effort.

**Biological Weapons Convention.** Concluded in 1972, the BWC bans the development, production, and stockpiling of biological agents or toxins which have no justification for peaceful purposes. The convention also prohibits the development, manufacture, and possession of biological weapons or delivery systems, or the transfer of biological agents or toxins for other than peaceful purposes.

China acceded to the BWC in 1984. In 1991, at a conference to review the implementation of the BWC, China’s Ambassador for Disarmament Affairs said that “it is China’s consistent position to oppose the proliferation of biological weapons, but at the same time, we do not agree to any action aimed at restricting or hindering international cooperation and exchange in the peaceful uses of biotechnology.”<sup>13</sup>

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<sup>11</sup> U.S. Library of Congress. Congressional Research Service. Chemical Weapons Convention: Issues for Congress. CRS Issue Brief 94029, by Steven R. Bowman, (updated regularly). Washington.

<sup>12</sup> Qian Qichen Signs Chemical Weapons Convention. Xinhua, January 13, 1993, translated in FBIS-CHI, January 14, 1993. p. 7-8.

<sup>13</sup> Diplomat Views Biological Weapons, Technology. Xinhua News Agency, September 12, 1991, translated in FBIS-CHI, September 13, 1991. p. 4.

## Wassenaar Arrangement

The Wassenaar Arrangement is a multilateral export control regime intended to replace the Coordinating Committee for Multilateral Export Controls (COCOM), which controlled exports to Soviet bloc countries during the Cold War. The new arrangement would control trade of items that could contribute to weapons proliferation. In July 1996, 31 countries agreed to implement the Wassenaar Arrangement. China is not a member of this group.

## Regional Nonproliferation Efforts

China's role in three key regional nonproliferation efforts will be discussed below. There are others, e.g., the Southeast Asian Nuclear Weapons Free Zone.

**North Korea.** Clinton Administration officials have remarked on the importance of China's support for international efforts to stop the nuclear weapons program in North Korea. Although specialists disagree as to how much influence Beijing has over Pyongyang, China is thought to have some influence in part because of subsidized exports of food and oil to North Korea. China has opposed the use of sanctions against North Korea, but has supported talks to prevent a nuclear-armed North Korea.<sup>14</sup>

**Arms Control in the Middle East.** In 1991, China agreed to join in then-President Bush's initiative for Arms Control in the Middle East (ACME), or Permanent Five, talks. Analysts believe that China agreed because it faced pressures to restrain worldwide arms sales after revelations of Iraq's WMD programs and some U.S. efforts to deny most-favored-nation (MFN) trade treatment. The ACME talks were to include bans on nuclear bomb materials and ballistic missiles in the Middle East. At the third meeting in May 1992, China refused to include missiles and missile technology in the guidelines on weapons of mass destruction. Then, after President Bush's decision, announced on September 2, 1992, to sell Taiwan 150 F-16 fighters, China suspended its participation in the talks. Beijing complained that Washington violated the U.S.-PRC Joint Communiqué of August 17, 1982, on reducing U.S. arms sales to Taiwan.

**South Asia.** In 1991, the United States proposed the Five Party Proposal on regional security and nonproliferation in South Asia. China, along with Pakistan and Russia, accepted the proposal. India has rejected the proposal and has objected that China's nuclear forces would not be included in the talks. China and India fought a war in 1962 and have unresolved border issues.

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<sup>14</sup> See also: U.S. Library of Congress. Congressional Research Service. North Korea's Nuclear Weapons Program. Issue Brief 91141, by Larry A. Niksch, updated regularly. Washington.

## White Paper on Arms Control and Disarmament

On November 17, 1995, China issued its first public defense white paper.<sup>15</sup> This initial effort at transparency was in part a result of the normalization of military ties between China and the United States begun by Secretary of Defense Perry in October 1994.

In the white paper, the Chinese government formally reiterated past statements that it pursues a “policy of not supporting, encouraging, or engaging in the proliferation of nuclear weapons and not assisting any other country in the development of such weapons.” The white paper on arms control and disarmament also continued to say that “at the same time, China holds that preventing the proliferation of nuclear weapons should not proceed without due regard for the just rights and interests of all countries in the peaceful use of nuclear energy.” China said that it “holds that the safeguard regime of the International Atomic Energy Agency (IAEA) is an important component of the efforts to assure the effectiveness of the NPT.”

As for chemical and biological weapons, China stated that “it does not produce or possess chemical weapons.” Since acceding to the BWC in 1984, China “has fully and conscientiously fulfilled its obligations under the convention.”

Significantly, the white paper did not specifically mention missiles or missile related technology, although such items may have been included as military equipment and technology. While China’s participation in the IAEA, NPT, CWC, and BWC were discussed, the white paper did not mention China’s policy of adherence to the MTCR.

### Chinese Policy Implementation

China’s implementation of its nonproliferation policy is affected in part by Beijing’s rationales for military-related exports, any constraints on effective export controls, as well as military modernization programs. Chinese policy implementation has implications for U.S. efforts to restrain dangerous sales.

#### Rationales

China likely has significant rationales for its arms-related exports. Several countries that were denied Western sales turned to China as a supplier of sensitive technology. This position likely has provided greater Chinese strategic political influence in the Middle East and South Asia. It may also have served Beijing’s policy goals of asserting independent clout and checking U.S. influence on domestic and international policies. China has claimed that its sales improve the regional balance of power in South Asia and the Middle East. Also, some of the recipients

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<sup>15</sup> Information Office of the State Council of the People’s Republic of China. China: Arms Control and Disarmament. November 1995. Beijing.



of Chinese technology may have shared with China advanced technology acquired from the U.S., Russia, or other countries. Beijing also has interests in Middle Eastern oil supplies to fuel its rapid industrialization and limiting any Islamic support for ethnic separatists in northwestern China.

In addition, China has expanded its missile and nuclear related sales to earn foreign exchange. The huge profits not only have contributed to the Chinese goal of defense modernization, but also boosted the personal wealth of arms merchants, many of whom are related to the top leaders. In short, in addition to national defense, intelligence (secret acquisition of technology), and foreign policy interests, Chinese military export policy also reflects the personal interests of the high-level cadres who oversee arms sales companies.

## Export Controls

Some have argued that there are constraints on China's implementation of effective export controls. Not all officials in Beijing, particularly military leaders, share Western nonproliferation concerns. For example, China at times has refuted that missiles are more destabilizing than aircraft. In addition, some analysts believe that Chinese arms sales are controlled by certain influential military officials with important family connections to top leaders. They do not have to answer to the Foreign Ministry, which primarily negotiates with Washington.<sup>16</sup> Some have asserted that decentralization of the Chinese economy in general, and the defense industry in particular, in the name of profits has hampered government export controls. Strengthening Chinese exports controls will require development of the rule of law.

Others argue, however, that the absence of top-level approval for arms exports may be true only in cases of less sensitive transfers. Because of the potential impact on U.S.-China relations and Chinese compliance with international agreements, the Chinese government would exercise restraints over the more questionable exports. Moreover, China's President Jiang Zemin is also the Chairman of the Central Military Commission which commands the military. Some observers point out that with no private defense firms in China, only the military has access to sensitive weapon systems and technology. Those arguing this view also note that the government has been able to crack down on political, criminal, economic, religious, or separatist activities when so desired.

The white paper on arms control and disarmament contained a section called "Strict Control Over the Transfer of Sensitive Materials and Military Equipment." On nuclear exports, it stated that "only specialized government-designated companies can handle nuclear exports and in each instance they must apply for approval from relevant governmental departments. All exports of nuclear materials and equipment will be subject to IAEA safeguards."

The white paper also stated that "China strictly controls transfers of military equipment and related technologies and has established an appropriate administrative

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<sup>16</sup> Lewis, John W., Hua Di, and Xue Litai. Beijing's Defense Establishment. International Security, Spring 1991.

organization and operating mechanism to achieve this goal. The State Administrative Committee on Military Products Trade (SACMPT), under the leadership of the State Council and the Central Military Commission, is responsible for the centralized control of transfers of military equipment and related technologies.” Officials from the Ministry of Foreign Affairs, the military’s General Staff Department, the Commission of Science, Technology, and Industry for National Defense (COSTIND), Ministry of Foreign Trade and Economic Cooperation (MOFERT), and other departments comprise the SACMPT. Furthermore, the white paper declared, “contracts for transfer of military equipment and technologies require approval before gaining effect. Major transfer items and contracts must be examined by the SACMPT and approved by the State Council and the Central Military Commission.”

## Missile Related Transfers

Despite export controls, Chinese exports of missile technology and know-how, including complete intermediate-range ballistic missiles, have raised concerns in Washington and other capitals. Such transfers have not violated any international treaties, since the MTCR is not a treaty, but have violated Chinese pledges and U.S. laws. In 1991 and 1993, the U.S. government twice determined Chinese violations of the MTCR guidelines and both cases were determined to have involved transfers of Category II missile components for the M-11 short range ballistic missile to Pakistan, not complete M-11 missiles. There have been no determinations of violations for Chinese missile-related sales to Syria or Iran. Since the 1987 sale of CSS-2 intermediate range ballistic missiles to Saudi Arabia, China has not been determined to sell complete missiles of any range to another country.

Ballistic missiles are considered destabilizing weapons primarily if they can deliver WMD. All potential target countries lack reliable defenses against missiles, whereas many countries have defenses against aircraft. Therefore, they may consider launching preemptive strikes against enemy missiles or may seek their own deterrent missiles and unconventional warheads.

There is also concern about Chinese re-transfers of advanced Russian and Ukrainian missile technology. According to *Space News* (November 1-7, 1993), Russia and Ukraine sold China RD-170 engines used on the Zenit space launcher in 1991, and Russia also reportedly sold China electronic equipment that could be used to improve missile accuracy. The Chinese have also reportedly purchased the Russian S-300 missile defense system. On February 24, 1993, then-CIA Director James Woolsey testified that “China continues to obtain missile technology from Russia and Ukraine ... China could in turn pass more advanced Russian- or Ukrainian-derived technology to other states, as Beijing has done previously with its own technology.”<sup>17</sup>

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<sup>17</sup> U.S. Congress. Senate. Committee on Governmental Affairs. Proliferation Threats of the 1990s. Hearing, 103-208, 103rd Congress, 1st Session. February 24, 1993. Washington, G.P.O., 1993. p. 11.

## Exports of CSS-2 IRBMS to Saudi Arabia

In 1987, during the Iran-Iraq War, China secretly sold an estimated 36 CSS-2 intermediate-range ballistic missiles (IRBM) to Saudi Arabia for about \$3-3.5 billion. The Saudis reportedly approached China for missiles after the Reagan Administration could not persuade Congress to lift the limit of 60 F-15 fighters that could be sold to Saudi Arabia. Riyadh said it acquired the missiles to deter against possible missile attacks from Tehran.<sup>18</sup>

The missiles are named DF-3 by the Chinese (“DF” for *Dong Feng*, or East Wind) and designated CSS-2 by the United States (“CSS” for Chinese Surface-to-Surface). According to *Jane’s Strategic Weapon Systems*, the CSS-2 IRBM is a single-stage missile using storable liquid fuel, first deployed by the Chinese in 1971. It has a range between 2,500 and 3,000 km (1,553-1,863 miles), depending on the weight of the warhead.

While the Chinese designed the CSS-2 missiles to carry nuclear warheads, Saudi Prince Bandar (Saudi ambassador to Washington who secretly negotiated the deal in Beijing) assured the United States that the Chinese had modified the missile to carry a large conventional warhead. The Chinese issued similar assurances. Then-Foreign Minister Wu Xueqian on April 6, 1988, said that China sold “some non-nuclear, conventional surface-to-surface missiles” to Saudi Arabia and that “the Saudi government made a commitment to us of no transfer, no first use of these missiles, and to use these missiles entirely for defensive purposes.” While insisting that the missiles contributed to peace and stability, Wu also said that China supported Arab states against any threat of a preemptive Israeli attack on the new missiles.<sup>19</sup>

The Chinese official thus implicitly conceded that the missiles could be destabilizing. Indeed, in early 1988, Israel appeared to threaten a preemptive strike against the CSS-2s, recalling the Israeli attack on an Iraqi nuclear reactor in June 1981.<sup>20</sup> At least two reports speculated that the Saudis considered using their CSS-2s during the confrontation against Iraq in 1990-1991, possibly arming them with nonconventional warheads.<sup>21</sup>

China was probably motivated by both the large profits from this unique missile deal as well as greater political influence in the Middle East. Beijing’s diplomatic

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<sup>18</sup> Ottaway, David B. Saudis Hid Acquisition of Missiles. *Washington Post*, March 29, 1988. p. A1; Gerald F. Seib. Saudi Purchase of Long-range Missiles Rekindles Debate on U.S. Arms to Arabs. *Wall Street Journal*, April 4, 1988. p. 13; R. Jeffrey Smith. Chinese Missile Launchers Sighted in Pakistan. *Washington Post*, April 6, 1991. p. A17 (for number of CSS-2 sold).

<sup>19</sup> Beijing Defends Sale of Missiles to Saudis. *Washington Post*, April 7, 1988. p. A27.

<sup>20</sup> MacFarquhar, Emily. China Corners the Copycat Arms Market. *U.S. News and World Report*, April 11, 1988. p. 45.

<sup>21</sup> Anderson, Jack and Dale Van Atta. Do Saudis Have Nuclear Weapons? *Washington Post*, December 12, 1990. p. G15; Saudi Arabia Wanted to Use CSS-2 MRBMs Against Iraq. *Defense and Foreign Affairs Weekly*, April 15-21, 1991.

rivalry with the Taipei government may also have motivated the sale. At the time, Saudi Arabia was one of the few remaining countries to maintain diplomatic relations with Taiwan.

## M-9 SRBM Related Exports to Syria

Since the Reagan Administration, Washington has been concerned about reported Chinese attempts to sell Syria the M-9 short-range ballistic missile (SRBM). The M-9 is estimated to have a range of 600 km (375 miles) and exceeds the range and payload limits of the MTCR guidelines (300 km and 500 kg). It is a single-stage, solid-fuel, fully mobile missile with an inertial guidance system. The M-9 is considered conventional or nuclear capable and much more accurate than the modified Scud-B ballistic missiles launched by Iraq during the 1991 Persian Gulf War. China developed the M-9 missile for export, with China Precision Machinery Import and Export Corporation (CPMIEC) marketing the missile abroad. China reportedly began flight tests on the M-9 in June 1988. In July 1995 and March 1996, China test fired M-9 missiles in the Taiwan Strait and East China Sea.

Syria is believed to have signed a contract and paid a deposit for the M-9s in 1988. A June 23, 1988, *Washington Post* report said that Syria may have turned to the Chinese after failing to obtain Soviet SS-23 ballistic missiles that were subject to elimination under the U.S.-U.S.S.R. INF Treaty.<sup>22</sup> The June 11, 1991, *Washington Post* revealed that U.S. concern stems from intelligence that: Syria and Pakistan provided financial support for the M-series missiles, sightings of Syrian and Pakistani military officials at missile development and testing sites, and acceleration in Chinese missile flight tests.<sup>23</sup> The *Far Eastern Economic Review* reported on August 22, 1991, that foreign intelligence had sighted up to 24 transporter-erector-launcher trucks (TELs) for the M-9 missile in Syria and that Syria provided much of the research and development funds for the M-9s.

There is no public information to indicate that the sale of M-9 SRBMs to Syria is proceeding. In December 1989, then-National Security Adviser Brent Scowcroft said he received Chinese assurances that “at the present time, China is not planning any sales of the M-9 missile to Syria.”<sup>24</sup> Then-Secretary of State James Baker also reported in 1991 that the United States has no evidence that the M-9 or any other surface-to-surface missiles have been “delivered” to Syria.<sup>25</sup> In October 1991, Chinese President Jiang Zemin himself denied that China will sell M-9 missiles to

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<sup>22</sup> Ottaway, David B. China Missile Sale Report Concerns U.S. *Washington Post*, June 23, 1988. p. A33.

<sup>23</sup> Smith, R. Jeffrey. U.S. to Press China to Halt Missile Sales. *Washington Post*, June 11, 1991. p. A14.

<sup>24</sup> Kristof, Nicholas D. U.S. Feels Uneasy as Beijing Moves to Sell New Arms. *New York Times*, June 10, 1991. p. A1.

<sup>25</sup> Hoffman, David. Selling Missile Technology Would Risk U.S. Wrath, Baker Tells China. *Washington Post*, June 13, 1991. p. A36.

Syria. When asked about selling M-9 missiles to Syria, Jiang said “no such thing planned.”<sup>26</sup>

Nevertheless, concerns persist over transfers of missile components or technology to Syria, even if entire missiles are not transferred. In early 1992, as Bush Administration officials debated whether to lift missile proliferation sanctions against China, some “senior Administration officials” reportedly cited intelligence reports that China “recently delivered” to Syria about 30 tons of chemicals which are needed to produce solid missile fuel.<sup>27</sup> Chinese missile experts may also be helping Syria to assemble missiles. William Safire wrote that delegations of Chinese missile technicians repeatedly visited missile manufacturing facilities at Hama and Aleppo.<sup>28</sup>

A 1996 report cited CIA findings that, in recent years, CPMIEC has assisted Syria’s Scientific Studies and Research Center in programs to build Scud C missiles and upgrade anti-ship missiles. In early June 1996, CPMIEC made a delivery to the center in Syria, which indicated that the shipment was “missile related.”<sup>29</sup> In August 1996, Syria revealed the level of its missile program when it test fired a Scud-C missile, believed to have originated in North Korea.<sup>30</sup>

## **M-11 Related Exports to Pakistan and U.S. Sanctions**

Chinese transfers to Pakistan of the components and technology related to the M-11 SRBM have caused major problems in U.S.-China relations. Some intelligence findings reportedly conclude that China transferred more than 30 entire M-11s. This is the only proliferation case where U.S. sanctions have been imposed. On June 25, 1991 and again on August 24, 1993, the U.S. government determined that Chinese arms sales companies transferred missile technology to Pakistan which contravened the guidelines of the MTCR. Sanctions were imposed as required by Section 73(a) of the AECA and Section 11B of the EAA.

The Chinese first revealed the M-11 SRBM in 1988 and reportedly successfully flight-tested it in 1990. The M-11 missile is a two-stage, fully-mobile, solid-propellant missile with an inertial guidance system. Transfers of the M-11 or related equipment exceed the MTCR guidelines, because the missile has the inherent capability to deliver a 500 kg warhead to 300 km.

Chinese assistance for Pakistan’s missile program reportedly dates back to the 1980s. On April 25, 1988, Pakistan is said to have test fired a missile, produced with

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<sup>26</sup> China’s Leader Examines Moscow, Beijing. Washington Times, October 31, 1991. p. A12.

<sup>27</sup> Sciolino, Elaine. China Said to Sell Parts for Missiles. New York Times, January 31, 1992. p. A1.

<sup>28</sup> Safire, William. China’s “Hama Rules.” New York Times, March 5, 1992. p. A27.

<sup>29</sup> Gertz, Bill. CIA Suspects Chinese Firm of Syria Missile Aid. Washington Times, July 23, 1996. p. 1.

<sup>30</sup> Rodan, Steve. Arrow 2 Blows Up Scud-like Target. Washington Times, August 21, 1996. p. 12.

Chinese help, capable of delivering a nuclear weapon.<sup>31</sup> Sales of missiles or missile technology to Pakistan are considered particularly dangerous, because Pakistan and its rival, India, are both “threshold” nuclear states that possess the capability to assemble nuclear weapons and are not parties to the NPT. President Bush, in October 1990, suspended economic and military aid to Pakistan because he could no longer certify to Congress that Pakistan does not possess a nuclear explosive device.<sup>32</sup> Many are concerned about a possible nuclear-armed clash between Pakistan and India over the Kashmir area. Most of the intelligence community reportedly believe “it is probable” that Pakistan has created nuclear warheads small enough to be launched by the M-11.<sup>33</sup>

Reports of Chinese efforts to sell the M-11 missile to Pakistan began to appear in early April 1991. The *Wall Street Journal* first reported that China was in the process of selling Pakistan a new missile with a range of about 180 miles (290 km) and capable of carrying a nuclear warhead. Evidence indicating a Chinese sale of M-11 SRBMs to Pakistan was the U.S. intelligence sighting of TELs for the M-11s inside Pakistan. The Chinese may have also delivered dummy missile frames for practice launches.<sup>34</sup>

**Bush Administration and the First Sanctions.** On April 30, 1991, the Bush Administration denied export of parts for a Chinese satellite, the Dong Fang Hong 3. The White House announcement said the export license was rejected “because certain activities of Chinese companies raise serious proliferation concerns.”<sup>35</sup> On May 27, 1991, along with his announcement of renewing MFN trade treatment for China, then-President Bush declared sanctions in response to Chinese M-11 related proliferation activities in Pakistan.<sup>36</sup>

The MTCR-related sanctions, which took effect on June 16 and June 25, 1991, entailed the denial of export licenses for: (1) high-speed computers to China, because they can be used for missile flight testing; (2) satellites to be launched by China; and (3) missile technology or equipment. They affected two Chinese companies: China

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<sup>31</sup> Trainor, Bernard E. Pakistan Accused of a Nuclear Move. *New York Times*, May 24, 1988. p. A1.

<sup>32</sup> Congress passed the Pressler amendment in 1985. It linked U.S. assistance to the condition that the President determine that “Pakistan does not possess a nuclear explosive device and that the proposed United States assistance program will reduce significantly the risk that Pakistan will possess a nuclear explosive device.”

<sup>33</sup> Smith, R. Jeffrey. Report Cites China-Pakistan Missile Links. *Washington Post*, June 13, 1996. p. A1.

<sup>34</sup> Fialka, John J. Pakistan Seeks Chinese Missile, U.S. Believes. *Wall Street Journal*, April 5, 1991. p. A16; R. Jeffrey Smith. Chinese Missile Launchers Sighted in Pakistan. *Washington Post*, April 6, 1991. p. A17; Bruce W. Nelan. For Sale: Tools of Destruction. *Time*, April 22, 1991. p. 44.

<sup>35</sup> Bush Bars Export of Satellite Parts to China, Citing Arms Sales. *Washington Post*, May 1, 1991. p. A4.

<sup>36</sup> Rosenthal, Andrew. Bush Renewing Trade Privileges for China, but Adds Missile Curbs. *New York Times*, May 28, 1991. p. A1.

Great Wall Industry Corporation (China's satellite launch company since 1986) and CPMIEC.<sup>37</sup> The sanctions were imposed in accordance with U.S. nonproliferation laws.

**First Chinese Assurance.** To try to resolve proliferation and other issues, then-Secretary of State James Baker went to Beijing in November 1991 as the highest-level U.S. official to publicly visit China since the Tiananmen Square crackdown in June 1989. On November 17, 1991, Baker gave a news conference with no accompanying Chinese official to give a verbal or written statement. Baker said "the Chinese have told us that they intend to observe the MTCR guidelines and parameters." Baker then added that the Americans "understand that this applies to the M-9 and M-11 missiles." As part of the bargain, China required that the United States lift the June 1991 sanctions.<sup>38</sup>

To be sure of the Chinese assurance, the Bush Administration requested written commitments from the Chinese. Only a Chinese foreign ministry spokesman stated China's commitment, saying vaguely that China "may consider observing the MTCR guidelines and parameters in actual transfers."<sup>39</sup> The Administration requested a clarification. The Chinese foreign ministry then issued a statement on November 21, 1991, that China "intends to abide" by the MTCR.<sup>40</sup> President Bush met with Premier Li Peng at the U.N. on January 31, 1992, but Li did not provide a written assurance. On the following day, Chinese Foreign Minister Qian Qichen sent the requested written message (not yet made public) to Baker, reportedly confirming the Chinese intent to abide by the MTCR guidelines. In announcing that the Administration had received the letter and would waive the June 1991 sanctions, the State Department said that "China's written commitment to abide by the MTCR guidelines and parameters is an important step forward in securing Chinese support for ballistic missile non-proliferation."<sup>41</sup> China did not enter an international agreement to observe the MTCR guidelines (considered a binding commitment) or become an MTCR member or formal adherent. Such a step would help exempt it from U.S. sanctions, according to the laws.

**First Waiver of Sanctions.** On February 22, 1992, the Chinese foreign ministry issued a statement saying that "China will act in accordance with the

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<sup>37</sup> White House Fact Sheet, June 16, 1991. U.S. Trade with China. U.S. Department of State Dispatch, June 24, 1991. p. 456; Imposition of Missile Proliferation Sanctions Against Chinese and Pakistani Entities. Federal Register, Vol. 56, No. 137, July 17, 1991. p. 32601.

<sup>38</sup> U.S. Department of State. Secretary's Talks in China: A Summary of Results. U.S. Department of State Dispatch, November 25, 1991. p. 859.

<sup>39</sup> Spokesman Views Visit. Xinhua, November 17, 1991, translated in FBIS-CHI, November 20, 1991. p. 7.

<sup>40</sup> Oberdorfer, Don. Bush to Meet Chinese Premier at U.N. Washington Post, January 17, 1992. p. A24; Comments on Missile Control, GATT, Korea. China News Agency, November 21, 1991, translated in FBIS-CHI, November 21, 1991. p. 1.

<sup>41</sup> U.S. Department of State. China's Adherence to Missile Control Guidelines. Dispatch, March 9, 1992. Washington. p. 189.

guidelines and parameters of the existing missile and missile technology control regime in its export of missiles and missile technology,” after the United States “effectively” lifts the June 1991 sanctions. The statement referred to the November 17, 1991, agreement but did not mention Qian Qichen’s letter to Baker.<sup>42</sup> Chinese statements also did not specifically cite the M-9 or M-11 missiles. The June 1991 sanctions were effectively waived on March 23, 1992. The Secretary of State justified the waiver on the grounds that “it is essential” to U.S. national security, in accordance with the laws.<sup>43</sup>

**Missile Technology Sales Continued.** Before the sanctions were effectively waived, reports said that China continued to pursue missile sales. U.S. intelligence reports were said to indicate that China had delivered to Pakistan guidance units that could be used to control the flight of M-11 missiles.<sup>44</sup> A briefing to some Senators reportedly indicated the Chinese had contracts to sell missile and nuclear-related technology to Pakistan, Syria, and Iran.<sup>45</sup>

On December 4, 1992, reports said that intelligence analysts sighted perhaps two dozen Chinese M-11 SRBMs in Pakistan “within the last two weeks.” Some U.S. officials argued that China may not have violated the MTCR guidelines if the M-11s were modified.<sup>46</sup> Again, months of policy debate ensued about whether to impose sanctions. Meanwhile, the Bush Administration postponed a decision to export a supercomputer to China.<sup>47</sup>

**Clinton Administration’s Response.** Chinese missile proliferation has posed a challenge also to the Clinton Administration. Shortly after President Clinton took office, reports said that evidence “strongly suggests” that China was continuing to transfer missile components to Pakistan in violation of its pledge to abide by the MTCR.<sup>48</sup> On May 28, 1993, President Clinton announced his decision to extend MFN status for China with conditions on future renewal on human rights progress. The issue of weapons proliferation was not linked, but the President promised to “pursue resolutely all legislative and executive actions to ensure China abides by

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<sup>42</sup> Spokesman Responds to U.S. Sanctions Move. FBIS-CHI, February 24, 1992. p. 7.

<sup>43</sup> U.S. Department of State. Waiver of Missile Technology Proliferation Sanctions on Foreign Persons. Federal Register, April 7, 1992. p. 11768.

<sup>44</sup> Sciolino, Elaine. China Said to Sell Parts for Missiles. New York Times, January 31, 1992. p. A1.

<sup>45</sup> Smith, R. Jeffrey. U.S. Lifts Sanctions Against Chinese Firms. Washington Post, February 22, 1992. p. A15.

<sup>46</sup> Mann, Jim. China Said to Sell Pakistan New Missiles. Los Angeles Times, December 4, 1992. p. 1; R. Jeffrey Smith. China Said to Sell Arms to Pakistan. Washington Post, December 4, 1992. p. A10.

<sup>47</sup> Sciolino, Elaine. Sale of Computer to China Delayed. New York Times, December 5, 1992.

<sup>48</sup> Jehl, Douglas. China Breaking Missile Pledge, U.S. Aides Say. New York Times, May 6, 1993. p. A1; Ann Devroy and R. Jeffrey Smith. U.S. Evidence “Suggests” China Breaks Arms Pact. Washington Post, May 18, 1993. P. A9.



international standards.” The President reported to Congress that “at present, the greatest concern involves reports that China in November 1992 transferred MTCR-class M-11 missiles or related equipment to Pakistan.”<sup>49</sup>

**Sanctions Imposed Again.** On August 24, 1993, the Clinton Administration determined that China had shipped M-11 related equipment (not missiles) to Pakistan and imposed Category II sanctions according to Section 73(a) of the AECA and Section 11B of the of the EAA. The sanctions were levied on Pakistan’s Ministry of Defense and 11 Chinese defense industrial aerospace entities. The sanctions denied U.S. government contracts and export licenses for missile equipment or technology (MTCR Annex items) for two years. The “Helms Amendment” language of the AECA and EAA was applied.<sup>50</sup>

The sanctioned Chinese entities were the following. They are under the direct control of the Chinese government’s State Council, which is headed by Premier Li Peng.<sup>51</sup>

- China’s Ministry of Aerospace Industry
- China National Space Administration
- China Aerospace Corporation
- Aviation Industries of China
- CPMIEC
- China Great Wall Industry Corporation
- Chinese Academy of Space Technology
- Beijing Wan Yuan Industry Corporation
- China Haiying Company
- Shanghai Astronautics Industry Bureau
- China Chang Feng Group

China’s response was limited to a threat to end its commitment to the MTCR. The primary effect of the sanctions was on the export to China of satellites that included military technology as well as military or dual-use technology listed in the MTCR annex. China depends on satellite launchings for profit as well as prestige. Satellites are not listed in the MTCR Annex but certain components are, and China Great Wall Industry Corporation is a sanctioned company. A 1989 U.S.-China agreement had allowed the China Great Wall Industry Corporation to launch nine U.S.-built satellites until 1994 and required China to charge prices “on par” with Western competitors (about \$40-50 million per geostationary orbit launch). The net impact of the sanctions on U.S. businesses was uncertain. Clearly, if the Chinese satellite launches were effectively blocked, some U.S. contracts would have been jeopardized. However, other U.S. companies and Russian and European commercial launch service providers may have benefitted from a lack of Chinese competition.

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<sup>49</sup> Clinton, William J. Statement on Most-Favored-Nation Trade Status for China and Report to Congress. May 28, 1993.

<sup>50</sup> U.S. Department of State. Imposition of Missile Proliferation Sanctions Against Entities in China and Pakistan. Federal Register, August 27, 1993. p. 45408.

<sup>51</sup> Blasko, Dennis J., Raymond F. Lawlor, John F. Corbett, Mark Stokes, and Christopher Kapellas. China’s Defense-Industrial Trading Corporations. Defense Intelligence Reference Document, October 1995.

**Waiver Sought.** The U.S. aerospace industry lobby, including the Aerospace Industries Association, called on the Clinton Administration to weaken the 1993 sanctions. Lobbyists argued that the sanctions denied even commercial products with no applications in China's missile or other defense programs and should be more flexible. Hughes Aircraft Company was reportedly concerned about its negotiations to sell satellites to China.<sup>52</sup>

Beginning days after the imposition of sanctions, the Clinton Administration indicated it was ready to negotiate a waiver for the sanctions. Assistant Secretary of State Winston Lord said on August 31, 1993, that "we're ready at any time to sit down with the Chinese, both to try to find a way to lift the sanctions if they cooperate but also to explain more fully the MTCR and its revised guidelines."<sup>53</sup> On September 25, 1993, National Security Adviser Anthony Lake told the Chinese Ambassador that the Clinton Administration was willing to negotiate a waiver of the sanctions, but a more formal Chinese commitment than the one made in November 1991 was needed.<sup>54</sup>

Meanwhile, Martin Marietta Corporation and Hughes Aircraft Corporation lobbied intensively for the Clinton Administration to waive the export ban for satellites. Reportedly due to these industry objections which were supported by the Commerce Department, the National Security Council reviewed the decision to implement the sanctions.<sup>55</sup> The Chairman and CEO of Hughes made a speech about his industry and foreign policy, arguing against the sanctions and saying that he had asked the President to review them.<sup>56</sup>

As policy-makers debated the lifting of part or all of the sanctions, some argued U.S. security interests were at stake and that U.S. credibility would be significantly weakened if satellites were exempted. Others said that U.S. export interests should prevail and a positive relationship with China was important for other U.S. interests such as preventing a nuclear armed North Korea.

On the eve of President Clinton's November 19, 1993, meeting with the Chinese President Jiang Zemin at the APEC (Asian Pacific Economic Cooperation) meeting in Seattle, the Administration formally proposed waiving the sanctions in return for another Chinese promise, in more detail and with more legal authority, not to export MTCR-class missiles. It was also reported that senior advisers argued in favor of a

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<sup>52</sup> Statement by Don Fuqua, President of the Aerospace Industries Association, on the Imposition of U.S. Economic Sanctions on China, August 26, 1993; Steven Greenhouse. Aerospace Industry Seeks Weaker Sanctions on China. *New York Times*, August 28, 1993. p. 35.

<sup>53</sup> Wolf, Jim. U.S. Seeks to Negotiate China Sanctions Waiver. *Reuters*, August 31, 1993.

<sup>54</sup> Sciolino, Elaine. To Ease Strain with China, Clinton to Meet its President. *New York Times*, October 2, 1993. p. 5.

<sup>55</sup> Mintz, John. The Satellite Makers' China Card. *Washington Post*, October 20, 1993. p. C11.

<sup>56</sup> Armstrong, C. Michael. Reinventing Government-Industry Relations; China Sanctions and the Hughes Aircraft Company. November 9, 1993.

broad interpretation of the law to allow the export of two of seven satellites. At the summit, however, Jiang only allowed for “discussions” of arms control issues and criticized U.S. sales of F-16 fighters to Taiwan.<sup>57</sup>

Meanwhile, a September 1994 report said that Pakistan agreed on August 22, 1994, to pay CPMIEC \$15 million toward a 1988 contract for M-11 missiles, launchers, and supporting equipment. The previous payment for the contract was \$83 million, which was paid in late 1992 when M-11 components were delivered. Some believe that missiles, not just components, were transferred at that time. Also, Chinese missile experts were reportedly scheduled to visit Pakistan later in 1994 to unpack and assemble missiles and to train Pakistani soldiers in their use. However, the presence of M-11 missiles in Pakistan have not been confirmed.<sup>58</sup> China and Pakistan have denied any transfer of M-11s.

**Second Agreement and Waiver of Sanctions.** At this time in 1994, the Clinton Administration was working to improve the overall relationship with China, with a policy of “constructive engagement.” The Secretaries of State and Commerce visited Beijing. The Secretary of Defense planned to visit China in October 1994, in part to normalize military exchanges frozen after the Tiananmen crackdown of June 1989.

Against this background, negotiations on China’s missile technology sales and U.S. sanctions continued into October 1994, when a new agreement broke the 13-month deadlock. On October 4, 1994, Secretary Christopher and Foreign Minister Qian Qichen signed a joint statement in which the United States agreed to waive the August 1993 missile sanctions and China agreed not to export “ground-to-ground missiles” which are “inherently capable” of delivering at least 500 kg to at least 300 km. Both countries “reaffirmed their respective commitments to the Guidelines and parameters of the MTCR,” and China agreed to hold “in-depth discussions on the MTCR” with the United States.<sup>59</sup> The waiver took effect on November 1, 1994.

Unlike the November 1991 news conference in which James Baker stood alone to explain U.S. and Chinese understandings of what had been agreed, Secretary Christopher and Chinese Foreign Minister Qian Qichen issued a joint statement in writing. The agreement on “inherent capability” in the joint statement set forth as official policy for Washington as well as Beijing that the M-11 missile is covered by the MTCR guidelines.

In issuing the joint statement, China made a unilateral pledge and is still not considered an “MTCR adherent” for purposes of U.S. laws. Also, the Chinese

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<sup>57</sup> Smith, R. Jeffrey and Daniel Williams. U.S. Offers to Waive China Trade Sanctions. Washington Post, November 11, 1993. p. A39; Sciolino, Elaine. Clinton’s Gamble: Embracing China’s Leaders. New York Times, November 17, 1993. p. A1; Williams, Daniel. U.S., China in Test of Strength. Washington Post, November 22, 1993. p. A17.

<sup>58</sup> Gertz, Bill. China-Pakistan Deal for Nuclear Missiles is Exposed. Washington Times, September 7, 1994.

<sup>59</sup> Secretary Christopher, Chinese Vice Premier and Foreign Minister Qian, Joint Statements. U.S. Department of State Dispatch, October 17, 1994. p. 701.

pledge not to export “ground-to-ground missiles” did not mention missile technology exports, which were the subject of U.S. sanctions in 1991 and 1993.

**M-11s in Pakistan?** While the Bush and Clinton Administrations sanctioned China and Pakistan for transfers of missile technology, the media has reported findings of transfers of complete M-11 missiles, perhaps before the October 1994 statement. The majority of the intelligence community reportedly believe that more than 30 M-11 missiles are in storage crates at Sargodha Air Force Base in Pakistan. The report cited intercepted communications, human intelligence reports, and satellite photographs of M-11 missile crates, but indicated that there are no photographs of M-11 missiles outside the crates to provide conclusive evidence.<sup>60</sup> The CIA and the National Intelligence Council have reportedly concluded that Pakistan has deployed Chinese M-11 missiles and Chinese technicians had assembled the M-11 missiles in Pakistan.<sup>61</sup> The leaks to the press indicate deep divisions inside the U.S. government about the need for sanctions in response to Chinese missile transfers. If evidence of actual missile transfers was obtained, harsher sanctions (Category I) would be required by law.

**Violations After the 1994 Statement?** After the October 1994 joint statement, a June 1995 report said that the CIA found that China delivered missile parts to Pakistan that could be used in M-11s “in the last three months.”<sup>62</sup> In addition, the U.S. intelligence community reportedly is in agreement that China is providing blueprints and equipment to Pakistan to build a plant to produce missiles that exceed the MTCR guidelines. There is disagreement, however, about whether the plant will manufacture some of the major missile components or whole copies of the M-11. Construction of the plant in the city of Rawalpindi allegedly began in 1995, and it will be able to make most of the major missile components in one or two years.<sup>63</sup> In response, Pakistan’s foreign minister denied the report, but said that “Pakistan reserves the right to develop anything for its defense with its own resources.” The Chinese foreign ministry denied the report as “entirely groundless.” In April 1996, the Secretary of Defense reported that “China remains Pakistan’s most important supplier of missile-related technologies.”<sup>64</sup>

## Missile Related Exports to Iran

Chinese missile related exports to Iran pose two separate concerns for U.S. policy-makers. First, transfers of missiles or technology for missiles which violate

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<sup>60</sup> Smith, R. Jeffrey and David B. Ottaway. Spy Photos Suggest China Missile Trade. Washington Post, July 3, 1995. p. A1.

<sup>61</sup> Gertz, Bill. Pakistan Deploys Chinese Missiles. Washington Times, June 12, 1996. p. 1; R. Jeffrey Smith. Report Cites China-Pakistan Missile Links. Washington Post, June 13, 1996. p. A19.

<sup>62</sup> Sciolino, Elaine. China Targeted on Missile Exports. International Herald Tribune, June 23, 1995. p. 1.

<sup>63</sup> Smith, R. Jeffrey. China Linked to Pakistani Missile Plant. Washington Post, August 25, 1996. p. A1.

<sup>64</sup> Office of the Secretary of Defense. Proliferation: Threat and Response. April 1996.

the MTCR guidelines could provide Iran with delivery systems for WMD and would require U.S. sanctions. Reportedly, Iran has an indigenous ballistic missile program and has been interested in the M-9 or M-11 SRBMs.<sup>65</sup> While Libya, Syria, and North Korea reportedly sold Scud-B SRBMs to Iran, it reportedly has a domestic program to build and improve them with Chinese and North Korean technical assistance.

Second, while no international agreement bans transfers of anti-ship missiles, certain Chinese transfers to Iran may violate U.S. laws. Iran's acquisition of anti-ship missiles could affect regional stability, allowing it to menace shipping and U.S. Navy ships and affect oil supplies. Since the mid-1980s, China has reportedly supplied to Iran Silkworm anti-ship missiles and C-802 anti-ship cruise missiles.

On January 15, 1992, then CIA Director Robert Gates testified to the Senate Governmental Affairs Committee that "Tehran's principal sources of special weapons since the Iran-Iraq war have been North Korea for long-range Scuds, and China for battlefield missiles, cruise missiles, and nuclear-related technologies."<sup>66</sup> *Jane's* reported that Iran has a project to produce a new version of the M-11 missile, designated Tondar-68.<sup>67</sup> According to a cited intelligence report, China in March 1992 negotiated to sell Iran some sensitive gyroscopes that can be used in missile guidance systems.<sup>68</sup> This report came after China's first pledge to the Bush Administration to abide by the MTCR. In 1993, Israeli intelligence sources were reported as saying that Iran is developing a medium- to long-range, solid-fuel missile based on the Chinese M-9 SRBM. The deal reportedly includes technology transfers.<sup>69</sup>

There is concern that China has helped Iran to convert surface-to-air missiles (SAMs) into surface-to-surface missiles. China reportedly provided to Iran "several dozen" CSS-8 missiles with a 150 km range, and the CSS-8s were converted HQ-2 (version of the SA-2 Guideline) SAMs.<sup>70</sup> This missile appears to be based on China's program to modify the HQ-2 SAM into the 8610 SRBM.

The CIA reportedly found that China delivered dozens or perhaps hundreds of missile guidance systems and computerized machine tools to Iran sometime between

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<sup>65</sup> Cheung, Tai Ming. More Punch for PLA. *Far Eastern Economic Review*, April 11, 1991. p. 18.

<sup>66</sup> U.S. Congress. Senate. Committee on Government Affairs. *Weapons Proliferation in the New World Order*. Hearing, January 15, 1992.

<sup>67</sup> Banks, Tony and James Bruce. *Iran Builds Its Strength*. *Jane's Defense Weekly*, February 1, 1992. p. 158-159.

<sup>68</sup> Seib, Gerald. Iran is Re-emerging as a Mideast Power as Iraqi Threat Fades. *Wall Street Journal*, March 18, 1992. p. 1; Jim Mann. U.S. Fears China is Seeking Missile Deal with Iran. *Los Angeles Times*, April 3, 1992. p. 7.

<sup>69</sup> *Iran/China in Secret Missile Project*. *Flight International*, May 19-25, 1993. p. 16.

<sup>70</sup> *Iran Builds up with Russian Firepower*. *Flight International*, August 18-24, 1993. p. 12; Office of the Secretary of Defense. *Proliferation: Threat and Response*. April 1996. p. 16.

mid-1994 and mid-1995.<sup>71</sup> The alleged deliveries may have been made after the October 4, 1994, joint U.S.-Chinese statement on the MTCR. There was concern that the components would be used to improve the accuracy of Scud missiles sold by North Korea and/or used to build indigenous Iranian missiles.

In 1996, reports said that China supplied C-802 anti-ship cruise missiles to Iran. The C-802 has a range of about 60 miles and is similar to the French Exocet anti-ship missile. Vice Admiral John Scott Redd, Commander of the U.S. Fifth Fleet, disclosed that Iran test-fired a C-802 (reportedly on January 6, 1996) in the Arabian Sea.<sup>72</sup> The alleged transfer posed a policy issue for the Clinton Administration which had to decide whether sanctions would be imposed in accordance with the Iran-Iraq Arms Nonproliferation Act. The Clinton Administration reportedly decided not to impose sanctions, because the number and type of missiles transferred were not “destabilizing.”<sup>73</sup> In July 1996, Vice Admiral Redd again expressed concern. He said that Iran has acquired Chinese C-802 anti-ship, radar-guided cruise missiles, as well as Houdong patrol craft capable of carrying those missiles. Other patrol craft are being modified to carry them.<sup>74</sup> Another report said that the anti-ship cruise missile may be the Karu missile, a modified version of the C-802, co-produced by Chinese and Iranians. The C-802 is produced by CPMIEC.<sup>75</sup>

## Nuclear Technology Transfers

In addition to missile-related transfers, Chinese nuclear sales have also posed concerns. Peaceful nuclear projects are not prohibited by the NPT. However, Chinese nuclear transfers to Pakistan and Iran have raised concerns about violations of U.S. laws. China has also transferred nuclear technology to Iraq, Syria, and Algeria. On February 24, 1993, then-CIA Director James Woolsey testified that Chinese nuclear deals with Algeria and Syria appeared consistent with NPT obligations. Woolsey later stated that China’s nuclear cooperation with Iran is NPT-consistent but “of concern,” and the nuclear relationship with Pakistan is “of greater concern.”<sup>76</sup>

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<sup>71</sup> Sciolino, Elaine. China Targeted on Missile Exports. *International Herald Tribune*, June 23, 1995. p. A1.

<sup>72</sup> Aldinger, Charles. Iran Deploying Anti-Ship Missile, Says U.S. *Reuters*, January 30, 1996; Bill Gertz. Pentagon Began Seeking Sanctions on China Months Ago. *Washington Times*, February 10, 1996. p. 6.

<sup>73</sup> Medeiros, Evan S. China Offers U.S. New Pledge On Nuclear Exports, Avoids Sanctions. *Arms Control Today*, May/June 1996. p. 19.

<sup>74</sup> Abdallah, Diana. Iran Triples Gulf Deployed Missiles. *Reuters*, July 15, 1996.

<sup>75</sup> China Helping Iranian Missile Developments. *Jane’s Defence Weekly*, July 17, 1996. p. 13.

<sup>76</sup> U.S. Congress. House. Committee on Foreign Affairs. Subcommittee on International Security, International Organizations, and Human Rights. Hearing, July 28, 1993.

## Nuclear Cooperation with Pakistan

China has provided nuclear technology to Pakistan, which is not a party to the NPT and is believed to have a nuclear weapon program. On February 6, 1992, the Foreign Secretary of Pakistan acknowledged that his country has the components and know-how to build at least one nuclear explosive device.<sup>77</sup> On December 1, 1992, NBC News reported that Pakistan could assemble and drop “at least seven” nuclear weapons within hours.<sup>78</sup> On February 24, 1993, then-CIA Director James Woolsey testified that, prior to joining the NPT in 1992, China “probably provided some nuclear weapons related assistance to Islamabad,” and that “it’s unclear whether Beijing has broken off contact with elements associated with Pakistan’s weapons programs.” The U.S. Arms Control and Disarmament Agency (ACDA) reported in its 1995 annual report to Congress that “since China’s accession to the NPT, it appears that China may have continued to assist Pakistan’s unsafeguarded nuclear program and may have continued contacts with elements associated with Pakistan’s nuclear weapons related program.”<sup>79</sup>

**History of Collaboration.** Chinese assistance for Pakistan’s nuclear weapons program dates to at least the 1980s. The Reagan Administration reportedly had convincing evidence that China was helping Pakistan operate its Kahuta uranium-enrichment plant and had given Pakistan a nuclear bomb design.<sup>80</sup> China is also believed by Western intelligence to have given a design for a 25-kiloton implosion device to Pakistan.<sup>81</sup> China’s Institute of Atomic Energy allegedly designed the nuclear system for a Pakistani research reactor (Parr-2), built in 1989, which uses highly enriched uranium fuel.<sup>82</sup> In the 1980s, Chinese intelligence stole information on building a nuclear device, perhaps a neutron bomb, from Lawrence Livermore National Laboratory, and China presumably passed the secrets to Pakistan.<sup>83</sup>

China reportedly gave Pakistan enough weapons-grade uranium to fuel two nuclear weapons. Chinese scientists had been sighted at Pakistan’s Kahuta complex (in which gas centrifuges are used to produce weapon-grade uranium). West German

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<sup>77</sup> Smith, R. Jeffrey. Pakistan Can Build One Nuclear Device, Foreign Official Says. Washington Post, February 7, 1992. p. A18.

<sup>78</sup> Pakistan Has Seven Nuclear Weapons. Reuters, December 1, 1992.

<sup>79</sup> U.S. Arms Control and Disarmament Agency. Adherence to and Compliance with Arms Control Agreements. 1995 Annual Report to Congress. Washington, 1996.

<sup>80</sup> Gelb, Leslie H. Pakistan Links Peril U.S.-China Nuclear Pact; Peking Said to Balk at Nuclear Pledges. New York Times, June 22 and June 23, 1984.

<sup>81</sup> Despite U.S. Alarm Over Algeria, Europeans Won’t Blacklist China. Nucleonics Week, May 23, 1991. p. 1.

<sup>82</sup> Siddiqi, Rauf. With Chinese Aid, Pakistan has New Research Reactor at Pinstech. Nucleonics Week, August 9, 1990. p. 4.

<sup>83</sup> Wines, Michael. Chinese Atom-Arms Spying in U.S. Reported. New York Times, November 22, 1990. p. A5.

officials had said that China in 1986 sold Pakistan tritium (which can be used to boost the yield of nuclear bombs).<sup>84</sup>

**Nuclear Contract.** Shortly before acceding to the NPT, China, on December 31, 1991, concluded a \$500 million contract to build a 300-megawatt nuclear power reactor at Chashma. Chinese Premier Li Peng and Pakistan's prime minister reportedly had agreed on the sale in November 1989. The general manager of the China National Nuclear Corporation signed the contract. Li Peng attended the signing ceremony and said that the deal "is totally for peaceful purposes."<sup>85</sup>

Pakistan has refused IAEA safeguards on its nuclear fuel cycle program, but requested IAEA safeguards for the Chinese reactor. Nevertheless, the sale raises concerns in part because China, unlike other suppliers, does not require full-scope safeguards (IAEA inspections of all declared nuclear facilities of the recipient country). Moreover, many fear that the cooperation provides a cover for Pakistan's weapon program. Germany and France had declined to sell Pakistan a reactor. Despite the Western ban on supplies, Chinese officials claimed construction would be completed in about seven years. Work reportedly started on August 1, 1993. By June 1996, Chinese media reported that a 310-megawatt nuclear power turbogenerator has been built by the Shanghai Electrical Machinery Plant and will be exported to Pakistan.<sup>86</sup>

**Ring Magnets and Sanction Dilemma.** In early 1996, there were calls for sanctions when it was reported that China sold unsafeguarded ring magnets to Pakistan, apparently in violation of the NPT and U.S. laws (including the Arms Export Control Act and Export-Import Bank Act). The *Washington Times* first disclosed intelligence reports that the China National Nuclear Corporation transferred to the A.Q. Khan Research Laboratory in Kahuta, Pakistan, 5,000 ring magnets suspected for use in enriching uranium in gas centrifuges. According to the report, intelligence experts believe that the magnets provided to Pakistan are to be used in special suspension bearings at the top of a rotating cylinder in the centrifuges.<sup>87</sup> One report said that the magnets were provided as a "future reserve supply" for Pakistan's enrichment plant in Kahuta, which is not safeguarded.<sup>88</sup> The deal was reportedly worth about \$70,000. China reportedly delivered the magnets in three shipments between December 1994 and mid-1995.

The Clinton Administration's decision-making was complicated by considerations of trade interests of corporations with business in China.

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<sup>84</sup> Milhollin, Gary and Gerard White. A New China Syndrome: Beijing's Atomic Bazaar. *Washington Post*, May 12, 1991. p. C1.

<sup>85</sup> Nuclear Cooperation Accord Signed with Pakistan. Xinhua News Agency, December 31, 1991, translated in FBIS-CHI, December 31, 1991. p. 11-12.

<sup>86</sup> Power Equipment. *China Daily*, June 6, 1996. p. 5.

<sup>87</sup> Gertz, Bill. China Nuclear Transfer Exposed. *Washington Times*, February 5, 1996. p. 1.

<sup>88</sup> Hibbs, Mark. China Said Aiding Kahuta Project; U.S. Credits, NPT Status On Line. *Nucleonics Week*, February 8, 1996. p. 1, 12.



Administration officials reportedly considered imposing then waiving sanctions or focusing sanctions only on the China National Nuclear Corporation, rather than large-scale sanctions affecting the entire Chinese government and many U.S. companies. Westinghouse Electric Corporation (which has deals pending with China National Nuclear Corporation) and Boeing Aircraft Company told the White House that the sanctions would hurt their business in China. Meanwhile, Chinese Vice Foreign Minister Li Zhaoxing did not deny the sale but argued that it was “peaceful nuclear cooperation.”<sup>89</sup>

At the end of February 1996, Secretary of State Christopher instructed the Export-Import Bank to suspend financing for commercial deals in China for one month. Secretary Christopher reportedly required time to try to obtain more information to make a determination of whether sanctions would be required.

CIA Director John Deutch reportedly said at a White House meeting that Chinese officials at some level likely approved the sale of magnets. This view was said to have been supported by Defense Secretary Perry, but opposed by officials from the Commerce and Treasury Departments and the U.S. Trade Representative office, who cited a lack of solid proof.<sup>90</sup> Observers note that the latter departments have an interest in promoting trade with China. The China National Nuclear Corporation is under the direct control of the State Council, which is headed by Premier Li Peng.<sup>91</sup>

By mid-April 1996, the Clinton Administration indicated that China and Pakistan would not be sanctioned severely. The Administration notified Congress about the delivery to Pakistan of U.S. military equipment sold in the 1980s, and the Export-Import Bank approved a loan guarantee for a sale of Boeing planes to China.<sup>92</sup> Some in Congress charged that the Administration knew of the magnet sale when the Brown Amendment was legislated to allow the equipment to be delivered despite the Pressler Amendment.

Secretary Christopher met with Foreign Minister Qian Qichen on April 19, 1996, in the Hague, and held a “very extensive discussion” on the magnet sale but did not resolve the issue. One dilemma for Secretary Christopher was the simultaneous need to secure Chinese support for a U.S. and South Korean proposal to hold four-party talks on a Korean peace treaty.<sup>93</sup> Another factor was the deterioration in U.S.-

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<sup>89</sup> Smith, R. Jeffrey. U.S. May Waive Sanctions on China for Sale Related to Nuclear Arms. *Washington Post*, February 8, 1996. p. 20; Bill Gertz. State Dept. Mulls Waiver for Beijing to Avoid Sanctions. *Washington Times*, February 8, 1996. p. A3.

<sup>90</sup> Smith, R. Jeffrey. U.S. Aides See Troubling Trend in China-Pakistan Nuclear Ties. *Washington Post*, April 1, 1996. p. 14.

<sup>91</sup> Blasko, Dennis J., Raymond F. Lawlor, John F. Corbett, Mark Stokes, and Christopher Kapellas. *China’s Defense-Industrial Trading Corporations*.

<sup>92</sup> Lippman, Thomas W. and Paul Blustein. U.S. Clears Pakistan, China Deals. *Washington Post*, April 17, 1996. p. 28.

<sup>93</sup> Worsnip, Patrick. U.S. Says No Solution to Nuclear Row with China. *Reuters*, April 19, (continued...)

China relations. China, in March 1996, test fired missiles in waters near Taiwan and held military exercises to influence the presidential election in Taiwan. The Administration responded in part by deploying two aircraft carriers close to Taiwan to underscore U.S. concern.

On May 10, 1996, the State Department announced that China and Pakistan would not be sanctioned at all, citing a new agreement with China. Clinton Administration officials said that China promised to provide future assistance only to safeguarded nuclear facilities, reaffirmed commitment to nuclear nonproliferation, and agreed to consultations on export control and proliferation issues. The Administration also said that Chinese leaders insisted they were not aware of the magnet transfer and that there is no evidence that the Chinese government had “willfully aided or abetted” Pakistan’s nuclear weapon program through the magnet transfer. Therefore, the State Department announced that sanctions were not warranted and Export-Import Bank considerations of loans for U.S. exporters to China were returned to normal.<sup>94</sup>

China’s foreign ministry spokesman made a statement on May 11, 1996, that “China will not provide assistance to unsafeguarded nuclear facilities.” There was no reference to future sales of ring magnets nor sales of sensitive nuclear technology to countries with suspected nuclear weapon programs. Administration officials reportedly said that China had rejected repeated U.S. requests to publicly make the broader pledges.<sup>95</sup> In any case, China since 1984 has declared that it does not engage in nuclear proliferation and asks countries receiving its transfers to accept IAEA safeguards, and formalized this by acceding to the NPT in 1992.

## Nuclear Cooperation with Iran

Since the 1980s, China has agreed to provide nuclear technology to Iran. In Beijing in July 1996, National Security Adviser Anthony Lake said, “the Chinese have in fact met their legal obligations with regard to Iran and the NPT ....” Despite being a party to the NPT, however, Iran is strongly suspected of having a nuclear weapon program. Moreover, there is concern about Iran’s nuclear collaboration with Pakistan, long a recipient of Chinese assistance. While any objectionable Chinese nuclear technology transfers to Iran may not violate the NPT, they may be in violation of U.S. laws, including the Iran-Iraq Arms Nonproliferation Act, AECA, and the Export-Import Bank Act.

**Secret Cooperation.** U.S. and European intelligence reportedly found that, since 1988, 15 Iranian nuclear engineers from Iran’s nuclear research center at

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<sup>93</sup> (...continued)  
1996.

<sup>94</sup> U.S. Government Statement on China’s Nuclear Nonproliferation Policies, May 10, 1996; Erlanger, Steven. U.S. Won’t Punish China Over Sale of Nuclear Gear. *New York Times*, May 12, 1996. p. A1.

<sup>95</sup> Smith, R. Jeffrey. China Silent on Nuclear Export Plans. *Washington Post*, May 14, 1996. p. 1.

Esfahan have been secretly trained in China; that a secret Iranian-Chinese nuclear cooperation agreement dates from after 1985; and that China transferred designs and technology for reactor construction and other projects at Esfahan.<sup>96</sup>

In July 1991, Chinese Premier Li Peng not only visited Tehran, but stopped at Esfahan. Reportedly, Premier Li visited Chinese scientists and military complexes and discussed China's completion of a nuclear reactor started by West Germany and France.<sup>97</sup> Iran had asked that Germany or another Western country resume construction of two nuclear reactors at Bushehr damaged by Iraqi air attacks in 1987 and 1988. Western countries, suspecting a civilian cover for a weapons program, have refused.

In October 1991, the media reported on secret Chinese nuclear cooperation with Iran. The *Washington Times* disclosed that China is building a nuclear research reactor as part of a weapon program in Iran.<sup>98</sup> China denied this report as "groundless." Then, reports said that Iran was trying to build a nuclear bomb and China was secretly providing a calutron for uranium enrichment, a nuclear reactor to be located at Esfahan, Chinese scientists, and training for Iranian nuclear engineers.<sup>99</sup> On October 31, 1991, Iran reported buying nuclear technology from China. Afterwards, on November 4, 1991, China acknowledged that Chinese and Iranian companies signed "commercial" contracts in 1989 and 1991 to transfer, respectively, an electromagnetic isotope separator (calutron) and a small nuclear reactor, for "peaceful purposes."<sup>100</sup>

**IAEA Visit.** In February 1992, the IAEA sent a team to visit Iran, on a pre-arranged and limited visit — not a special inspection. The team reported that it did not find that the Chinese-supplied calutron and small nuclear reactor were part of an Iranian weapons program. The IAEA mission looked at six Iranian sites — with the Chinese calutron and reactor — and found no proof there, at the time, that any Iranian nuclear activity violated peaceful principles. The team found that the Chinese-supplied calutron is different from the calutrons used by Iraq to enrich uranium. The one in Iran was found to be a standard electromagnetic separator configured for natural zinc and used to produce stable isotopes, with no enrichment capability at the time of the visit. The inspectors also said that the mini neutron

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<sup>96</sup> Hibbs, Mark. Sino-Iranian Nuclear Pact Alleged. *Nucleonics Week*, May 2, 1991. p. 17-18.

<sup>97</sup> Li Visits Esfahan. *Xinhua*, July 9, 1991, translated in FBIS-CHI, July 10, 1991. p. 18; PRC to Supply Nuclear Technology. *Sawt Al-Kuwayt*, July 11, 1991, translated in JPRS-TND, August 8, 1991. p. 19-20.

<sup>98</sup> Gertz, Bill. Chinese Build Reactor for Iranian Program. *Washington Times*, October 16, 1991. p. A3.

<sup>99</sup> Smith, R. Jeffrey. Officials Say Iran is Seeking Nuclear Weapons Capability. *Washington Post*, October 30, 1991. p. A1; Elaine Sciolino. Report Says Iran Seeks Atomic Arms. *New York Times*, October 31, 1991.

<sup>100</sup> Spokesman Comments on Nuclear Assistance to Iran. *Xinhua*, November 4, 1991, translated in FBIS-CHI, November 5, 1991. p. 19.

reactor is still under construction, although the fuel has been supplied, and the IAEA will be implementing safeguards.<sup>101</sup>

Those skeptical of Iran's intentions point out that: (1) Iran could still evade international discovery of any hidden nuclear weapons activity as Iraq had done extensively; and (2) Iraq had started out with a small calutron and then developed numerous and larger ones. The Iranians reportedly said that they reluctantly turned to China after failing to obtain preferred Western assistance due to export controls.

The United States continues to suspect a tenacious, long-term Iranian nuclear weapons program and opposes even dual-use nuclear technology transfers to Iran. Suspicions arise from several factors. First, oil- and gas-rich Iran does not need nuclear power plants. Second, Iran is allegedly engaged in an ambitious military buildup, including the nuclear program. Third, Iran, from 1991 to 1992, sought and almost acquired for plutonium production a completely-Chinese nuclear research reactor (25-30 MW) together with key nuclear fuel fabrication facilities from Argentina — components which are unnecessary for a peaceful nuclear program. With China concerned about efforts to deny it MFN status, U.S. pressure was apparently successful in halting these shipments.<sup>102</sup>

**Contract for Nuclear Reactors.** On September 10, 1992, China and Iran finalized an agreement on “nuclear energy” cooperation, when Iranian President Rafsanjani visited Beijing accompanied by top-level military and atomic energy officials.<sup>103</sup> As with the Chinese nuclear reactor for Pakistan, Western components and equipment have been denied to Iran. Yet, China claimed that it could build the reactors without foreign supplies and estimated the construction of two 300-MW nuclear reactors in Iran and technical training would take 9-10 years to complete.<sup>104</sup>

**U.S. Response.** The United States has urged China (and Russia) not to sell nuclear reactors or technology to Iran. In April 1995, in discussions with Chinese Foreign Minister Qian Qichen at the U.N., Secretary of State Christopher shared intelligence and tried to persuade the Chinese to halt the controversial nuclear sales to Iran. At a press conference on April 17, 1995, Secretary Christopher said that Iran “is simply too dangerous with its intentions and its motives and its designs to justify nuclear cooperation of an allegedly peaceful character.” However, Qian Qichen publicly disagreed, saying “there is no international law or international regulation

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<sup>101</sup> Atom Agency Finds No Threat at Iran's Sites. *New York Times*, February 13, 1992; Michael Z. Wise. Atomic Team Reports on Iran Probe. *Washington Post*, February 15, 1992. p. A29-A30.

<sup>102</sup> Hibbs, Mark. Iran Sought Sensitive Nuclear Supplies from Argentina, China; Sensitive Iran Reactor Deal May Hinge on MFN For China. *Nucleonics Week*, September 24, 1992, October 1, 1992; Steve Coll. U.S. Halted Nuclear Bid by Iran. *Washington Post*, November 17, 1992. p. A1.

<sup>103</sup> Signs Nuclear Agreement. *Xinhua*, September 10, 1992, translated in FBIS-CHI, September 11, 1992. p. 15.

<sup>104</sup> Hibbs, Mark and Margaret L. Ryan. Official says China Developing Ability to Supply Entire PWRs. *Nucleonics Week*, October 1, 1992. p. 4-5.

or international agreement that prohibits such cooperation on the peaceful use of nuclear energy.”<sup>105</sup> The Clinton Administration was so concerned about Iran’s nuclear program and its support of international terrorism that on May 9, 1995, the President imposed an embargo on trade and investments with Iran.

Meanwhile, delays have apparently hampered the Chinese nuclear reactor projects in Iran, resulting in uncertainty as to when they would be completed. As some had predicted, China may not have the expertise and technology to build the reactors. China and Iran reportedly have disagreed over technical designs, financial terms, and sites for the reactors. Some Chinese officials may have argued that obtaining U.S. and other cooperation for China’s own troubled nuclear reactors was more important.<sup>106</sup> According to the Clinton Administration, the Chinese foreign minister reportedly told Secretary Christopher on September 27, 1995, that the reactor deal will not continue. Some officials speculated that Iran could not pay the Chinese and may be more interested in buying reactors from Russia.<sup>107</sup> Later, the Chinese foreign minister said that the deal was only suspended.<sup>108</sup>

**Other Controversial Deals.** There are other controversial Chinese nuclear deals with Iran which have pointed to an Iranian nuclear weapon program. The China National Nuclear Energy Industry Corporation reportedly plans to sell Iran a facility to convert uranium ore into uranium hexafluoride gas, which could be enriched to weapons-grade material. U.S. policy is complicated by the fact that Westinghouse Electric Corporation wants to sell equipment to the Chinese company.<sup>109</sup> According to intelligence reports, the deal is proceeding with Chinese nuclear experts going to Iran to build the new uranium conversion plant near Esfahan.<sup>110</sup>

In addition, Chinese technicians have built a calutron system for enriching uranium at the Karaj nuclear research facility, according to “confidential reports” submitted to President Rafsanjani by his senior aides. The Chinese system is

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<sup>105</sup> Worsnip, Patrick. U.S., China Clash Over Iran Reactor Plan. Reuters, April 17, 1995; R. Jeffrey Smith. China, in Rebuff to U.S., Defends Its Nuclear Dealings with Iran. Washington Post, April 18, 1995. p. 13.

<sup>106</sup> Mufson, Steven. China Says It Sees No Reason To Halt Plans to Sell Nuclear Reactor to Iran. Washington Post, May 18, 1995. p. 22; Patrick E. Tyler. China Reports New Problems in Atom Deal with Teheran. New York Times, May 18, 1995. p. 11.

<sup>107</sup> Goshko, John M. China Drops Reactor Deal with Iran. Washington Post, September 28, 1995. p. A22.

<sup>108</sup> Beck, Simon. Qian Line on Pledges Challenged. South China Morning Post (Hong Kong), October 4, 1995.

<sup>109</sup> Smith, R. Jeffrey. China Nuclear Deal with Iran is Feared. Washington Post, April 17, 1995. p. A1; R. Jeffrey Smith. China Firm that Angered Washington May Get New Deal. Washington Post, June 20, 1996. p. 21.

<sup>110</sup> Gertz, Bill. Iran Gets China’s Help on Nuclear Arms. Washington Times, April 17, 1996. p. A1.

reportedly similar to the technology used by Iraq.<sup>111</sup> Iraq had used the calutron technique, or electromagnetic isotope separation, to advance its undeclared uranium enrichment program.

## Nuclear Cooperation with Algeria

China provided secret nuclear assistance to Algeria, which was not a party to the NPT at the time. In April 1991, the *Washington Times* disclosed Chinese construction of a nuclear reactor in Algeria as part of a weapons program, generating greater concerns about covert nuclear technology transfers to the Middle East.<sup>112</sup> U.S. intelligence reported that the reactor under construction could be used to produce nuclear bomb fuel. Some intelligence estimates of the size of the cooling towers suggested a possible upgraded power level as great as 60 megawatts.<sup>113</sup> Intelligence experts were also suspicious because the reactor was believed to be larger than required for nuclear research, there were no electrical power generation facilities, a surface-to-air missile battery was nearby, and the facility was located at a remote site (Ain Oussera in the Sahara desert.)<sup>114</sup> Algeria said April 30, 1991, that the reactor would only generate electrical power and produce radioactive isotopes for medical research, would be fueled by low-enriched uranium, and would have a maximum thermal output of 15 megawatts.

China initially did not acknowledge its nuclear assistance for Algeria. On April 13, 1991, the Chinese Foreign Ministry denied the *Washington Times* report without reference to a nuclear reactor. Then on April 30, 1991, the Chinese issued a revised response, saying that the agreement on nuclear cooperation for China to provide a small nuclear reactor to Algeria had been signed in 1983 and that the reactor would be used only for peaceful purposes since its power would be 10-15 megawatts. The statement claimed that since China did not join the IAEA until 1984, it did not have to seek IAEA safeguards on the deal with Algeria. The Bush Administration did not express great concern about the Chinese reactor in Algeria, especially since Algeria promised to request IAEA safeguards. Algeria acceded to the NPT on January 12, 1995.

## Nuclear Cooperation with Iraq

China was not a principal nuclear equipment supplier for Iraq, which had access to European and other sources. Nonetheless, China (a major arms supplier to Iraq in the 1980s) reportedly transferred dual-use nuclear technology and materials to that country. A Chinese military reprocessing plant allegedly sold Iraq low-enriched

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<sup>111</sup> Coughlin, Con. Chinese Help Iran Join the Nuclear Club. *Washington Times*, September 25, 1995. p. 1.

<sup>112</sup> Gertz, Bill. China Helps Algeria Develop Nuclear Weapons. *Washington Times*, April 11, 1991. p. A3.

<sup>113</sup> Hibbs, Mark. Cooling Towers Are Key to Claim Algeria is Building Bomb Reactor. *Nucleonics Week*, April 18, 1991. p. 7-8.

<sup>114</sup> Smith, R. Jeffrey. China Aid on Algerian Reactor May Violate Pledges. *Washington Post*, April 20, 1991. p. A17.

uranium in the late 1970s.<sup>115</sup> During 1984-1986, China reportedly conducted a feasibility study on building a clandestine nuclear reactor for Iraq. There is no evidence that the project went beyond the feasibility study stage.<sup>116</sup> China helped Iraq build sophisticated magnets for stabilizing uranium enrichment centrifuges, according to *Middle East Markets* (a *Financial Times* newsletter). Iraq reportedly sought Chinese assistance only after failing to obtain the special magnets from British sources.<sup>117</sup>

## Nuclear Cooperation with Syria

On November 29, 1991, China confirmed plans to sell a small (30-kilowatt) nuclear reactor to Syria as an IAEA technical assistance program.<sup>118</sup> The IAEA first denied the Syrian request because Syria refused to sign a safeguards agreement, although it was a party to the NPT. In February 1992, Syria agreed to allow IAEA inspections of nuclear facilities, and a safeguards agreement was signed on May 18, 1992.<sup>119</sup>

## Chemical and Biological Transfers

Besides missile and nuclear deals, China may have transferred components or technology to other states for chemical or biological weapons. In January 1992, then-CIA Director Robert Gates testified that Syria “is seeking assistance from China and Western firms for an improved capability with chemical and biological warheads.”<sup>120</sup> In November 1995, Deputy Assistant Secretary of Defense Bruce Reidel said, “Chinese firms have provided some assistance [to Iran], both in terms of the infrastructure for building chemical plants and some of the precursors for developing agents.”<sup>121</sup> The Secretary of Defense reported that Chinese transfers of “chemical-related technologies to unstable regions such as the Middle East and South Asia” pose serious concerns.<sup>122</sup>

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<sup>115</sup> Hibbs, Mark. Amounts of U Reported in Iraq are “No Surprise,” IAEA Says. *Nucleonics Week*, May 9, 1991. p. 4-5.

<sup>116</sup> Knapik, Michael. U.S. Document Says China Studied Building Iraq a Power Reactor. *Nucleonics Week*, July 4, 1991. p. 2-3.

<sup>117</sup> Dorsey, James M. Iraq Gets Chinese Aid on A-bomb. *Washington Times*, December 14, 1989. p. 1.

<sup>118</sup> Denies Export of Reactor to Syria. *People’s Daily Overseas Edition*, November 29, 1991, translated in FBIS-CHI, November 29, 1991. p. 2.

<sup>119</sup> Syria, IAEA to Negotiate Nuclear Accord. *Washington Post*, February 11, 1992. p. A16; IAEA Annual Report for 1994.

<sup>120</sup> U.S. Congress. Senate. Committee on Armed Services. *International Security Environment over the Next Decade*. Hearing, January 22, 1992.

<sup>121</sup> Pentagon Says China Helps Iran. *Washington Times*, November 10, 1995. p. 5.

<sup>122</sup> Office of the Secretary of Defense. *Proliferation: Threat and Response*.

Chemical transfers which contribute to CW programs would not violate any treaty, since the CWC has not entered into force. However, they may defy U.S. laws which require sanctions. Transfers of biological agents for weapon programs would violate the BWC and U.S. laws.

There were two recent, publicized incidents of suspected, but unproven, Chinese involvement in shipping sensitive chemicals. First, the Yinhe incident began in July 1993 when the Clinton Administration sought to prevent a Chinese cargo ship called the Yinhe from reaching Iran. The Administration believed that the ship was carrying chemicals that could be used for mustard gas and nerve gas, specifically thiodiglycol and thionyl chloride. One unusual factor in this case was that it was Chinese media which disclosed the issue, along with extensive details.<sup>123</sup> China did not agree to allow U.S. representatives to participate in a Saudi inspection of the ship's cargo until August 26, 1993.<sup>124</sup> Before the completion of the inspection, China acted prematurely to declare that no chemicals were found.<sup>125</sup> After the inspection, the State Department said that the suspected chemicals were not found aboard the ship.

There are several theories for what happened. First, U.S. intelligence was wrong, and no sensitive chemicals were ever on the Yinhe. Second, the chemicals were removed from the Yinhe before it docked for the inspection. Third, plans for shipping the chemicals were aborted when the Chinese realized the United States had been alerted, and Beijing allowed the Yinhe to continue in order to embarrass Washington. Fourth, the incident was set up to discredit U.S. intelligence on this and other proliferation questions.

In the second recent case, a German ship, the Asian Senator, was inspected in January 1994 in Saudi Arabia and found to have illegal chemicals for chemical weapons onboard. The cargo ship had left China for the Middle East. The Clinton Administration said that "the Chinese cooperated fully in the investigation, and they agreed that what was found was not good stuff."<sup>126</sup>

## China's WMD Programs and Vertical Proliferation

As opposed to the horizontal proliferation of weapons know-how between states, vertical proliferation is the development of new weapons by a declared

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<sup>123</sup> Official Lodges "Strong" Protest Over Freighter. *People's Daily*, August 9, 1993, translated in FBIS-CHI, August 9, 1993. p. 1; Nicholas D. Kristof. China Says U.S. is Harassing Ship Suspected of Taking Arms to Iran. *New York Times*, August 9, 1993. p. A6.

<sup>124</sup> U.S. to Observe Inspection of Iran-Bound Freighter. *Wall Street Journal*, August 27, 1993. p. A4.

<sup>125</sup> Sun, Lena H. China: No Suspect Cargo Found. *Washington Post*, September 3, 1993. p. A33.

<sup>126</sup> Mann, Jim. Illegal Chemical Cargo Was Bound from China to Mideast. *Washington Post*, January 23, 1994. p. A22.



weapon state. China's acquisition of Russian or other advanced technology, or Chinese development of new missiles and WMD would challenge efforts to stem their proliferation. Missile and WMD programs can be used for export as well as for China's own military. There are concerns about possible Chinese re-transfers of acquired advanced technology (e.g., from Russia) as well as transfers of new technology developed in China. In addition, modernization of Beijing's missile and WMD programs can provide an impetus for other governments in Asia to develop similar weapons as a deterrent to a perceived threat.

## Missile Modernization

**Strategic Missiles.** China's strategic missile force is called the Second Artillery of the Chinese military (People's Liberation Army, or PLA). From 1956 until 1986, the Second Artillery deployed IRBMs and intercontinental ballistic missiles (ICBMs), including the CSS-2 IRBM which was exported to Saudi Arabia. In 1982, the PLA mastered the use of solid-propellants with the successful flight of a submarine launched ballistic missile (SLBM), the JL-1 (designated CSS-N-3 in the West). Its land-mobile version is called DF-21. The Second Artillery is also developing the DF-31/JL-2 as a three-stage land-mobile or submarine-launched ICBM with a range of 8,000 km carrying a payload of 700 kg. Another ICBM under development is the DF-41 with three-stages and a range of 12,000 km carrying 800 kg. China has pursued the modernization of its strategic force with new, more survivable, solid-fuel missiles that are submarine-launched or ground-mobile. The target for achieving this goal is the year 2010.<sup>127</sup> China has reportedly tested a modification of its DF-5 (CSS-4) ICBM with multiple independently-targetable re-entry vehicle (MIRV) capability.<sup>128</sup>

In 1996, serious concerns arose about Chinese attempts to acquire advanced strategic missile technology from Russia and Ukraine for the SS-18 ICBM. In January 1996, Ukraine expelled three Chinese for attempting to steal secret SS-18 technology from a missile plant. Chinese General Liu Huaqing reportedly expressed great interest in buying SS-18 ICBM technology during a visit to Moscow in December 1995, and China also approached Ukraine.<sup>129</sup>

**Tactical Missiles.** China began to develop tactical missiles for export in 1984 (likely with market potential provided by the Iran-Iraq War a major factor). China's M-9, M-11, or other SRBMs not only might be exported, but are also available for service in the PLA. China's test firing of the M-9 SRBM in July 1995 and March 1996 into the East China Sea to add political pressure on Taiwan may have spurred Taipei and other Asian governments to seek their own defensive missiles as a deterrent.

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<sup>127</sup> Lewis, John Wilson and Hua Di. China's Ballistic Missile Programs. International Security, Fall 1992.

<sup>128</sup> The Military Balance 1994-1995. International Institute for Strategic Studies, 1994.

<sup>129</sup> Gertz, Bill. China Nuclear Transfer Exposed. Washington Times, February 5, 1996. p. A1; China's Arsenal Gets a Russian Boost. Washington Times, May 20, 1996. p. A1.

In addition to the M-9 and M-11 SRBMs, China also has a program to modify the HQ-2 SAM into a SRBM called the 8610. This missile appears to be related to the CSS-8 missile which China sold to Iran. The 8610 reportedly delivers a 500 kg payload to a range of 300 km. It has two stages, with a solid-propellant booster and a main engine with storable liquid fuel.<sup>130</sup> China has apparently been trying to acquire advanced cruise missile components. The Clinton Administration reportedly asked Russia to stop a sale of rocket motors for cruise missiles to China.<sup>131</sup>

## Nuclear Weapon Modernization

China exploded its first nuclear device on October 16, 1964.<sup>132</sup> Since then, China has conducted at least 45 nuclear tests of a variety of yields. The latest test occurred on July 29, 1996, at a time when countries worldwide were negotiating for a CTBT. The yield of that explosion was estimated at between one and five kilotons. Along with announcing that test, China also declared a moratorium on nuclear testing, effective on July 30, 1996.

There is still concern that China will continue to develop new nuclear weapons, including more compact warheads. A Defense Department report said that China likely has a nuclear weapon for a relatively small cruise missile.<sup>133</sup>

## Chemical and Biological Weapons

There is also concern that China has maintained and modernized its chemical and biological weapons. In 1993, an intelligence finding reportedly said that “it is highly probable that China has not eliminated its BW program.”<sup>134</sup> In the discussion of compliance with the BWC in 1995, ACDA stated that “there are strong indications that China probably maintains its offensive program.”<sup>135</sup> The Secretary of Defense reported that “China has a mature chemical warfare capability and may well have maintained the biological warfare program it had prior to acceding to the Biological Weapons Convention in 1984. It has funded a chemical warfare program since the 1950s and has produced and weaponized a wide variety of agents. Its biological warfare program included manufacturing infectious micro-organisms and toxins.”<sup>136</sup>

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<sup>130</sup> Lewis, John Wilson and Hua Di. China’s Ballistic Missile Programs.

<sup>131</sup> Gertz, Bill. Russia Sells Rocket Motors to China. Washington Post, February 13, 1996. p. A4.

<sup>132</sup> Lewis, John Wilson and Xue Litai. China Builds the Bomb. Stanford University Press, 1988.

<sup>133</sup> Cruise Missiles Becoming Top Proliferation Threat. Aviation Week and Space Technology, February 1, 1993. p. 26.

<sup>134</sup> Smith, R. Jeffrey. China May Have Revived Germ Weapons Program, U.S. Officials Say. Washington Post, February 24, 1993. p. A4.

<sup>135</sup> U.S. Arms Control and Disarmament Agency. Adherence to and Compliance with Arms Control Agreements. 1995 Annual Report to Congress. Washington, 1996.

<sup>136</sup> Office of the Secretary of Defense. Proliferation: Threat and Response.

## Lessons Learned since 1991

Some lessons for U.S. policy can be drawn from an examination of China's proliferation activities and approach to nonproliferation issues since 1991.

- There are cases where China reportedly violated both the letter and spirit of its commitments on nonproliferation (international treaties and guidelines). China may have violated the NPT and the BWC. While China has strengthened its assurances to abide by the MTCR, there is reported evidence that China breached those voluntary guidelines.
- Even if they do not violate any treaties, transfers of technology can be more dangerous than transfers of complete weapon systems. Technology transfers improve the indigenous capabilities of China's customers to manufacture missiles or WMD on their own.
- Beijing faces the challenge of both upholding obligations in international nonproliferation regimes and selling weapon technology. The government, and Premier Li Peng in particular, has been involved in foreign nuclear cooperation contracts. Companies selling missile technology are government-owned, defense industrial entities.
- Among the various issues in U.S.-China relations, proliferation is one which China has been willing to negotiate and move toward common international goals — given conducive overall relations.
- In 1992, China started to join international nonproliferation efforts likely because of several pressures. First, Beijing was ostracized after the June 1989 Tiananmen Square crackdown. Second, it faced immense pressure in light of alarming disclosures after the Gulf War about Iraq's WMD programs. Third, there was a real trepidation that MFN status would be revoked. Fourth, the June 1991 sanctions had been imposed and no waivers had yet been granted.
- As a nuclear weapon power with a strategic missile force, China had very little to lose and much to gain from acceding to the NPT, promising to adhere to the MTCR, or signing the CWC. China has been able to continue its missile and nuclear modernization programs.
- China understands its commitments. Although some have asserted that China may not have understood the international treaties and guidelines, Chinese officials have made statements confirming that they do have a firm grasp of China's obligations.
- With such understanding, China has not held the MTCR guidelines with the same level of commitment as it does international treaties

like the NPT or CWC. Premier Li Peng personally committed China to the NPT, but avoided involvement on the MTCR.

- China does not always shared Western nonproliferation concerns. China has claimed that aircraft are just as destabilizing as missiles and has not voiced the same Western concerns about proliferation of missiles. In some cases, China has argued that if sales improve the balance of power, then there is greater stability.
- China has increasingly linked nonproliferation issues to U.S. arms sales to Taiwan. Then President Bush's September 2, 1992, decision to sell Taiwan 150 F-16A/B fighters has complicated the Sino-U.S. dialogue on nonproliferation. Some analysts believe the Chinese even increased proliferation activities in retaliation for the F-16 sale.
- Aspiring to be a global leader, China has retreated from positions where it was isolated on an important international issue. It generally has preferred to advance an image as a responsible world leader.

The pressures to join international nonproliferation efforts that China faced in the early 1990s have weakened, while its commitment to nonproliferation is unclear. China has made progress in breaking out of relative isolation and committing to major international agreements and guidelines. China has not been reported to have supplied critical nuclear weapon know-how since giving Pakistan a nuclear bomb design in the 1980s. There has been no determination that China transferred complete missiles which exceed MTCR guidelines, since the 1987 sale of CSS-2 IRBMs to Saudi Arabia or since China first promised to abide by the MTCR in 1992. Nevertheless, aside from compliance issues, there are policy concerns. China has not expanded its international commitments to join some significant but informal nonproliferation groups, such as the NSG. There are reports that China continues to sell sensitive missile, nuclear, chemical, or biological technology, and maintains banned weapon programs.

The prospects for greater Chinese cooperation might improve if China realized the benefits of nonproliferation for its interests and U.S. efforts were augmented by multilateral pressures on China. Such pressures on China to participate fully in strengthening nonproliferation regimes could capitalize on China's desire to be treated as a "great power" and perceived as a responsible world leader. What U.S. policy approach should be pursued to promote greater Chinese cooperation with nonproliferation regimes and improved compliance? What are U.S. options, including the use of sanctions? U.S. policy options for responding to the problem of China's transfers that contribute to the proliferation of WMD are discussed in Issue Brief 92056, *Chinese Proliferation of Weapons of Mass Destruction: Current Policy Issues*.

## Appendix: U.S. Nonproliferation Laws

While certain Chinese transfers may not violate any international agreements, they may violate U.S. laws. Numerous laws set U.S. policy and aim to enforce nonproliferation regimes with unilateral sanctions if there is a determination of Chinese violations. The most important are the Arms Export Control Act (AECA) (P.L. 90-629), Export Administration Act (EAA) (P.L. 96-72), and the Export-Import Bank Act (P.L. 79-173). This appendix will briefly discuss the U.S. laws that are most relevant to China's transfers.<sup>137</sup>

### Satellites

Section 902 of the Foreign Relations Authorization Act for FYs 1990 and 1991 (P.L. 101-246) banned the export of Munitions List items and U.S.-built satellites for Chinese launch (in response to the 1989 Tiananmen crackdown), but the President may waive the ban based on U.S. national interest.

### Iran-Iraq Arms Nonproliferation Act

Section 1605 of the Iran-Iraq Arms Nonproliferation Act, as amended, requires sanctions against countries that the President determines to have transferred or retransferred "goods or technology so as to contribute knowingly and materially to the efforts by Iran or Iraq (or any agency or instrumentality of either such country) to acquire chemical, biological, or nuclear weapons or to acquire destabilizing numbers and types of advanced conventional weapons." Advanced conventional weapons include cruise missiles. The required sanctions include suspension of economic and military assistance (excluding Export-Import Bank financing), multilateral development bank assistance, military and dual-use technical exchange agreements, and exports of U.S. Munitions List items. Congress enacted this act as part of the FY1993 Defense Authorization Act (P.L. 102-484). The FY 1996 Defense Authorization Act (P.L. 104-106), approved on February 10, 1996, added "to acquire chemical, biological, or nuclear weapons."

### Missile Nonproliferation Laws

Because the MTCR has no enforcement mechanism, Congress amended U.S. statutes to set policy on U.S. exports of missile technology and to help enforce the MTCR. In passing the National Defense Authorization Act for FY1991 (P.L. 101-510), Congress added sections on missile proliferation controls to the AECA and the EAA. P.L. 101-510 was enacted on November 5, 1990.

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<sup>137</sup> See also: U.S. Library of Congress. Congressional Research Service. Proliferation Control Regimes: Background and Status. CRS Report 95-547F, by Theodor W. Galdi (Coordinator), April 27, 1995; and China: U.S. Economic Sanctions. CRS Report 96-272F, by Dianne Rennack, July 1, 1996.

**Sanctions.** Section 73(a) of the AECA and Section 11B(b)(1) of the of the EAA require U.S. sanctions if the President determines that a foreign person knowingly does one of the following.

- “exports, transfers, or otherwise engages in the trade of any MTCR equipment or technology that contributes to the acquisition, design, development, or production of missiles in a country that is not an MTCR adherent and would be, if it were United States-origin equipment or technology, subject to the jurisdiction of the United States under this Act,”
- “conspires to or attempts to engage in such export, transfer, or trade, or”
- “facilitates such export, transfer, or trade by any other person.”

Possible sanctions depend on the items that were transferred. Category II transfers would result in sanctions, for two years, prohibiting export licenses and government contracts for missile equipment or technology. Category I transfers would result in the prohibition, for not less than two years, of licenses for all items on the U.S. Munitions List and items controlled by the EAA, and prohibit all U.S. government contracts. In addition, if the President determines that the transfer “substantially contributed to the design, development, or production of missiles in a country that is not an MTCR adherent,” then imports of products produced by the sanctioned entity are banned.

**Exceptions for MTCR Adherents.** Significantly, Section 73(b) of the AECA and Section 11B(b)(2) of the EAA stipulate that these sanctions are not applied to “MTCR adherents.” “MTCR adherent” is defined as “a country that participates in the MTCR or that, pursuant to an international understanding to which the United States is a party, controls MTCR equipment or technology in accordance with the criteria and standards set forth in the MTCR.” Section 73A of the AECA requires the President to notify Congress after a country becomes an “MTCR adherent.” China is not a participant in the MTCR and does not have an international agreement or memorandum of understanding with the United States concerning missile technology export controls. China has unilaterally stated that it is adhering to the MTCR guidelines.

**Waivers.** Section 73(e) of the AECA and Section 11B(b)(5) of the EAA allow the President to waive the sanctions for a foreign entity if the President determines that a waiver is “essential” to U.S. national security. The Bush Administration and the Clinton Administration each waived sanctions imposed on Chinese companies for violations of the MTCR.

**Helms Amendment.** Section 74(8)(B) of the AECA and Section 11B(c) of the EAA are special provisions for countries like China and North Korea where government controlled companies are engaged in missile trade. A definition in the AECA stipulates that in the case of “non-market economies,” except for former Warsaw Pact members, sanctions on a “foreign person” are to be applied to “all activities of that government relating to the development or production of any missile

equipment or technology” and “all activities of that government affecting the development or production of electronics, space systems or equipment, and military aircraft.” (American aircraft manufacturers in civilian aircraft deals would not be affected.) This so-called “Helms amendment” to the AECA was enacted by the Foreign Relations Authorization Act of FY1992 and FY1993 (P.L. 102-138). In introducing the amendment on July 29, 1991, Senator Helms specified the intention to sanction all “arms exporting” entities.

**Terrorist Countries.** For exports to countries determined by the Secretary of State to be supporting international terrorism, Section 73(f) of the AECA declares a presumption that a transferred item on the MTCR Annex is “designed for use in a missile listed in the MTCR Annex.” This subsection was added by the Foreign Relations Authorization Act for FYs 1994 and 1995 (P.L. 103-236).

## Nuclear Nonproliferation Laws

**Arms Export Control Act.** Chapter 10 of the AECA establishes nuclear nonproliferation controls. This chapter was added by the Nuclear Proliferation Prevention Act of 1994, which was enacted on April 30, 1994, as part of the Foreign Relations Authorization Act for FYs 1994 and 1995 (P.L. 103-236). If the President determines that any country “transfers to a non-nuclear-weapon state any design information or component which is determined by the President to be important to, and known by the transferring country to be intended by the recipient state for use in, the development or manufacture of any nuclear explosive device,” sanctions are to be imposed. Required sanctions include denial of licenses for Munitions List items, government credit or financial assistance, opposition to financing by international financial institutions, and government bank loans.

**Export-Import Bank Act.** The Export-Import Bank Act of 1945 (amended) (P.L. 79-173) contains recently added language to deny Export-Import Bank financing if the Secretary of State determines that “any country has willfully aided or abetted” any non-nuclear-weapon state to acquire a nuclear explosive device or to acquire unsafeguarded special nuclear material. Congress added this language by enacting the Nuclear Proliferation Prevention Act as part of the Foreign Relations Authorization Act of FYs 1994 and 1995 (P.L. 103-236), which was approved on April 30, 1994.

On May 10, 1996, the State Department announced that China would not be sanctioned for a Chinese company’s transfer to Pakistan of 5,000 ring magnets for use in centrifuges to enrich uranium. The department said that there is no clear evidence that the Chinese government had willfully assisted Pakistan’s nuclear weapons program through the magnet transfer. Some in Congress have responded with efforts to broaden the coverage beyond “country,” because the Clinton Administration did not sanction the country of China for the transfer by the Chinese company.

**P.L. 99-183 on U.S.-China Nuclear Cooperation.** During the Reagan Administration, Congress enacted conditions in P.L. 99-183 restricting the implementation of the 1985 Agreement for Nuclear Cooperation Between the U.S. and China. Before any approvals for exports of U.S. nuclear material, facilities, or

components (with no mention of technology), the President must make certain certifications about Chinese nonproliferation. No President has made such certifications to implement the agreement.<sup>138</sup>

## **CW and BW Nonproliferation Laws**

Section 81 of the AECA and Section 11C of the EAA stipulate sanctions for chemical weapon (CW) or biological weapon (BW) proliferation activities. The Chemical and Biological Weapons Control and Warfare Elimination Act of 1991 (P.L. 102-182), enacted on December 4, 1991, added the sections. They require sanctions if the President determines that a foreign person has “knowingly and materially contributed” to the efforts by any foreign country, project, or entity to use, develop, produce, stockpile, or otherwise acquire chemical or biological weapons. Sanctions would prohibit U.S. government procurement and U.S. imports of products produced by the foreign person.

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<sup>138</sup> See also: U.S. Library of Congress. Congressional Research Service. Implementation of the U.S.-Chinese Agreement for Nuclear Cooperation. CRS Issue Brief 86050 (archived), by Warren H. Donnelly, September 28, 1989. Washington.