

CRS Report for Congress

U.S.-China Nuclear Cooperation Agreement

Updated September 6, 2007

Shirley Kan, Coordinator
Specialist in Asian Security Affairs
Foreign Affairs, Defense, and Trade Division

Mark Holt
Specialist in Energy Policy
Resources, Science, and Industry Division



**Prepared for Members and
Committees of Congress**

U.S.-China Nuclear Cooperation Agreement

Summary

This CRS Report, updated as warranted, discusses the agreement on civilian nuclear cooperation with the People's Republic of China (PRC) by focusing on congressional roles in crafting and carrying out the agreement. Almost 13 years passed between the time that President Reagan submitted the agreement to Congress in July 1985 and its implementation in March 1998 under the Clinton Administration. Key developments in the U.S.-China nuclear cooperation agreement were timed for diplomatic summits between U.S. Presidents and PRC leaders. On April 30, 1984, President Reagan witnessed the initialing of the agreement. Secretary of Energy John Herrington signed the agreement on July 23, 1985. On July 24, 1985, President Reagan submitted to Congress the "Agreement Between the United States and the People's Republic of China Concerning Peaceful Uses of Nuclear Energy." Consideration of whether a Presidential certification would be the centerpiece of a summit in 1997 advanced the agreement's implementation. President Clinton, on January 12, 1998, signed certifications (as required by P.L. 99-183) on China's nuclear nonproliferation policy and practices to implement the agreement. Clinton also issued a certification and waived a sanction imposed after the 1989 Tiananmen Crackdown (as required by P.L. 101-246). Congressional review ended on March 18, 1998, and the agreement has since been implemented.

Congress played an important role in determining implementation of the agreement, including holding hearings, crafting legislation, and requiring and reviewing Presidential certifications. One of the primary congressional actions was enacted in P.L. 99-183, the Joint Resolution Relating to the Approval and Implementation of the Proposed Agreement for Nuclear Cooperation Between the United States and the People's Republic of China, which required a Presidential certification and a report followed by a period of 30 days of continuous session of Congress before the agreement could be implemented. After the 1989 Tiananmen Crackdown, Congress enacted sanctions in P.L. 101-246, the Foreign Relations Authorization Act for FYs 1990-1991, suspending nuclear cooperation with China and requiring an additional Presidential certification on the PRC's nuclear nonproliferation assurances.

Some Members have been concerned about U.S. nuclear cooperation with China in the context of China's practices related to the proliferation of nuclear weapons. Members also have been interested in how Congress reviewed the agreement with China as well as how this experience might apply to other similar agreements, such as that with India. Congress also exercises oversight of exchanges with China in the nuclear area conducted by the Department of Energy and its National Nuclear Security Administration (NNSA). Some Members have considered whether financing by the U.S. Export-Import Bank should support nuclear exports to China. On February 28, 2005, Westinghouse submitted a bid to sell four nuclear power reactors to China, as supported by the Bush Administration and the Export-Import Bank. In Beijing in December 2006, Energy Secretary Samuel Bodman signed a bilateral Memorandum of Understanding that granted the deal to Westinghouse. Westinghouse signed the contract in July 2007.

Contents

Congressional Concerns	1
Nuclear Proliferation	1
Export-Import Bank Financing	1
Overview: Nuclear Cooperation with China and U.S. National Interests	2
U.S. Interests	2
Nuclear Power Market	2
Summits and Timeline	3
Negotiation of the Agreement	4
Congressional Concerns in Early 1980s	4
Reagan Visits China in 1984	4
U.S. Initials Agreement	4
U.S. Points to PRC Nonproliferation Pledges	5
Senate Passes Restrictions	5
Reagan Submits Agreement in 1985	6
Administration's Concerns	6
Proliferation Concerns	7
Formal Submission	8
Issues for Congressional Review	8
Other Hearings	12
Legislation and P.L. 99-183	12
Sanctions After the Tiananmen Crackdown	13
Initial Legislation	13
P.L. 101-246	14
Implementation of the Agreement	14
Congressional Action Before Certification	15
U.S.-PRC Summit in October 1997	16
Governmental Cooperation	16
Clinton Certifies Agreement in 1998	17
Congressional Review	18
Incomplete Assurances	18
Visits	18
Re-transfers	19
U.S. Nuclear Exports	20
Concerns	20
Westinghouse's Reactors	21
Deal for Westinghouse	23

Note: A version of this report was originally written for the House International Relations Subcommittee on Asia and the Pacific in the 109th Congress, and material from that study is made available for general congressional use with permission.

U.S.-China Nuclear Cooperation Agreement

Congressional Concerns

Nuclear Proliferation

This CRS Report discusses the Nuclear Cooperation Agreement between the United States and the People's Republic of China (PRC), which was signed in 1985 and implemented in 1998. The discussion focuses on congressional roles in crafting and carrying out the agreement. On July 24, 1985, President Reagan submitted to Congress the "Agreement Between the United States and the People's Republic of China Concerning Peaceful Uses of Nuclear Energy." Some Members have been concerned about U.S. nuclear cooperation with China in the context of China's practices related to the proliferation of nuclear weapons. (See CRS Report RL31555, *China and Proliferation of Weapons of Mass Destruction and Missiles: Policy Issues*, by Shirley Kan.) Members also have been interested in how Congress reviewed the agreement with China as well as how this experience might apply to other similar agreements, such as that with India. Congress also exercises oversight of exchanges with China in the nuclear area conducted by the Department of Energy and its National Nuclear Security Administration (NNSA). (On the creation of the NNSA and issues related to China, see CRS Report RL30143, *China: Suspected Acquisition of U.S. Nuclear Weapon Secrets*, by Shirley Kan.)

Export-Import Bank Financing

Some Members in the 109th Congress considered whether U.S. government resources should be used to support nuclear exports to China, specifically by Westinghouse Electric Company. On June 28, 2005, Representative Bernard Sanders introduced Amendment 381 to the Foreign Operations, Export Financing, and Related Programs Appropriations Act for FY2006 (H.R. 3057) to prohibit funds from being used by the Export-Import Bank to approve an application for a loan or loan guarantee for a nuclear project in the PRC. The House adopted the amendment (313-114) and passed H.R. 3057 on June 28, 2005, with the language in Section 589. The Senate's version did not have similar language, and the amendment was dropped in conference (H.Rept. 109-265). H.R. 3057 was enacted as P.L. 109-102 on November 14, 2005.

Concerning Westinghouse's export, Congress would have an opportunity to review any proposed Ex-Im Bank financial assistance before final approval by the Bank's Board of Directors. For any proposed nuclear-related assistance of \$100 million or more, the Bank must notify Congress at least 25 days of continuous session or 35 calendar days before final approval (12 U.S.C. 635(b)(3)). The congressional notification procedure was used in 1994, for example, when the Ex-Im Bank proposed to guarantee \$300 million in loans for Westinghouse to upgrade a

reactor in the Czech Republic. Although the controversial project drew a number of comments and questions from individual Members of Congress, there was no move by Congress as a whole to block the loan guarantees, and they were approved by the Ex-Im Bank Board of Directors after the review period ended.¹ (For a discussion of the Ex-Im Bank, see CRS Report 98-568, *Export-Import Bank: Background and Legislative Issues*, by Danielle Langton.)

Overview: Nuclear Cooperation with China and U.S. National Interests

U.S. Interests

The question for U.S. policy-makers since the Reagan Administration in the 1980s has been whether nuclear cooperation with the PRC would be necessary to advance U.S. diplomatic, security, and economic interests. There were tensions in the framework for bilateral relations that informed U.S. considerations of peaceful nuclear cooperation. While the PRC under the rule of the Communist Party of China already possessed nuclear weapons, the PRC also has had a record of nuclear proliferation to countries such as Pakistan and Iran.² The United States and the PRC have not been allies. Nonetheless, in 1970, President Nixon began a rapprochement with Communist Party ruler Mao Zedong, and both countries cooperated in various areas during the Cold War until the disintegration of the Soviet Union in 1991. Nuclear cooperation involves weighing risks and benefits. The risks include nuclear proliferation and upgrading technology and knowledge that also might have military uses. The benefits involve expanding engagement, building mutual confidence, and enabling U.S. businesses to compete for potentially lucrative nuclear power contracts. Increased nuclear power in China's electricity generation also could have a slight impact on its demand for oil and emission of greenhouse gas.

Nuclear Power Market

After PRC rulers led by Deng Xiaoping began to reform the economy in 1978, China announced plans for purchasing foreign nuclear power reactors to provide energy for economic modernization. According to those initial plans, China desired a total of 10,000 megawatts of nuclear power, or 5% of total electrical capacity by

¹ "Ex-Im Backs Temelin Loans Despite Austrian, Congressional Questions," *Nucleonics Week*, March 17, 1994, p. 17.

² For details, see CRS Report 97-391, *China: Ballistic and Cruise Missiles*, by Shirley Kan; CRS Report RL31555, *China and Proliferation of Weapons of Mass Destruction and Missiles: Policy Issues*, by Shirley Kan.

2000. The acquisitions were estimated to be worth \$10-20 billion.³ However, by 1999, nuclear power accounted for only about 1% of electricity generation in China.⁴

In April 2004, Vice President Dick Cheney visited Beijing and discussed with Politburo Standing Committee Member and PRC Vice President Zeng Qinghong China's plans to build 24 to 30 nuclear power reactors by 2020, at the cost of \$1.5 billion for each plant. Presumably, China would then draw 4-5% of its electricity from nuclear power, expanded from 1-2% in 2003.⁵ On February 28, 2005, Westinghouse submitted a bid to sell four nuclear power reactors to China, with the U.S. Nuclear Regulatory Commission's approval.⁶ (See **U.S. Nuclear Exports**.)

Summits and Timeline

Key developments in the U.S.-China nuclear cooperation agreement were timed for diplomatic summits between U.S. Presidents and PRC leaders. On April 30, 1984, President Reagan witnessed the initialing of the nuclear cooperation agreement. Secretary of Energy John Herrington signed the agreement on July 23, 1985. On July 24, 1985, President Reagan submitted the agreement to Congress. Consideration of whether a Presidential certification (as required by P.L. 99-183 on China's nuclear nonproliferation policy and practices) would be the centerpiece of a summit in 1997 advanced the agreement's implementation. President Clinton, on January 12, 1998, signed certifications to implement the agreement. The President also waived a sanction imposed after the 1989 Tiananmen Crackdown (in P.L. 101-246). Congressional review ended on March 18, 1998, and the agreement has since been implemented.

Almost 13 years passed between the time that President Reagan submitted the agreement to Congress in July 1985 and its implementation in March 1998 under the Clinton Administration. Congress played an important role in determining implementation of the agreement, including holding hearings, crafting legislation, and requiring and reviewing Presidential certifications. One of the primary congressional actions was enacted in P.L. 99-183, the Joint Resolution Relating to the Approval and Implementation of the Proposed Agreement for Nuclear Cooperation Between the United States and the People's Republic of China (December 16, 1985), which required a Presidential certification and a report followed by a period of 30 days of continuous session of Congress before the agreement could be implemented. After the 1989 Tiananmen Crackdown, Congress enacted sanctions in P.L. 101-246, the Foreign Relations Authorization Act for FYs 1990-1991 (February 16, 1990), suspending nuclear cooperation with China and requiring an additional Presidential certification on the PRC's nuclear non-proliferation assurances.

³ Alain Cass, "U.S. Nuclear Sector Licks Its Lips Over China," *Financial Times*, August 15, 1985.

⁴ IAEA, "Nuclear Power Around the World," *News Briefs*, April/May 2000.

⁵ Charles Hutzler, "China and U.S. Are Close to Ending Nuclear Dispute," *Wall Street Journal*, September 2, 2004.

⁶ *Nucleonics Week*, March 3, 2005.

Negotiation of the Agreement

Congressional Concerns in Early 1980s

In January 1983, U.S. officials negotiating a nuclear cooperation agreement with China linked possible U.S. nuclear exports to China with its reported nuclear proliferation practices, particularly in Pakistan.⁷ Before an agreement was finalized, Senators Gordon Humphrey, William Roth, and William Proxmire wrote to Secretary of State George Shultz in December 1983. They urged that an agreement be drafted so that none of the provisions of the Nuclear Nonproliferation Act of 1978 would be waived. They also wrote that the agreement should include explicit pledges by China not to transfer any nuclear weapons equipment or information to any nation; to support the U.S. requirement for recipients to accept the International Atomic Energy Agency (IAEA)'s safeguards on nuclear exports; and to enter into an agreement with the IAEA to place China's civilian nuclear activities under IAEA safeguards with terms identical to those of the U.S.-IAEA safeguards agreement. Reported concerns about China also included its nuclear proliferation activities in Argentina and South Africa.⁸

Reagan Visits China in 1984

U.S. Initials Agreement. In preparation for President Ronald Reagan's first visit to the PRC in April 1984 to improve bilateral relations, officials sought an agreement on civil nuclear cooperation as the "deliverable" that caught the most attention. Begun in 1981, negotiations intensified before the visit over the U.S. requirement (under the Atomic Energy Act) for China to obtain U.S. prior approval before reprocessing, enrichment, or other alteration of transferred nuclear material. China objected to perceived infringement of its sovereignty. At the end of his visit, on April 30, 1984, Reagan witnessed the initialing of the nuclear cooperation agreement. The President said that he was "particularly proud" of the agreement, saying that "it will open broad opportunities for joint work in development of the energy base which China needs for her modernization." According to a summary of the terms provided by officials to the *New York Times*, China agreed that it would not enrich or reprocess fuel from U.S.-built reactors or store materials without U.S. consent; and the United States agreed not to use its control rights to inhibit the growth of China's nuclear industry out of commercial rivalry.⁹

⁷ Rob Laufer, "China's Role in Worldwide Nuclear Weapons Buildup Under U.S. Scrutiny," *Nucleonics Week*, January 20, 1983.

⁸ *Nucleonics Week*, August 1, 1983 and December 8, 1983.

⁹ Steven Weisman, "Reagan Leaves on Trip to China; Seeks to Ease Tension in Relations" and "U.S. Said to Reach Pact with Chinese on Nuclear Power," *New York Times*, April 23 and 24, 1984; Christopher Wren, "Chinese Concession Permits U.S. Accord on Atom Power," *New York Times*, April 17, 1984; "U.S.-Chinese Agreements," *New York Times*, April 30, 1984.

U.S. Points to PRC Nonproliferation Pledges. China also took steps in response to U.S. concerns about nuclear proliferation during negotiations for the agreement. While China opposed the Nuclear Non-Proliferation Treaty (NPT), China applied for membership in the International Atomic Energy Agency (IAEA) in September 1983 and became a member on January 1, 1984. (The PRC did not accede to the NPT until March 9, 1992. Also, China joined the Zangger Committee¹⁰ in October 1997 and the Nuclear Suppliers Group (NSG) in May 2004. Since 1992, the NSG has required “full-scope safeguards,” or IAEA inspections of all other declared nuclear facilities in addition to the facility importing supplies to prevent diversions to weapon programs.)¹¹

In making China’s first address to the IAEA conference in September 1984, the PRC Minister of Nuclear Industry 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. In the same view, when importing nuclear materials and equipment, China will also make sure that they are used for peaceful purposes.” China did not offer to place its civilian nuclear facilities under IAEA safeguards, the only nuclear weapon state that remained outside such arrangements.¹² Also, Administration officials were able to point to a statement issued in January 1984 by PRC Premier Zhao Ziyang when he visited the United States and said that “we do not engage in nuclear proliferation ourselves, nor do we help other countries develop nuclear weapons.”¹³ That promise left a question about any future activities. Later, on January 19, 1985, PRC Vice Premier Li Peng issued an additional nonproliferation pledge, saying that the PRC “does not and will not in the future help any non-nuclear states to develop nuclear weapons” and that China would abide by commitments to the IAEA.¹⁴ Still, questions remained about whether there would be written pledges and whether any such assurances would be publicly issued by China, itself, rather than the United States expressing its interpretation of an understanding reached with China either verbally or in writing.

Senate Passes Restrictions

Senator John Glenn introduced an amendment to the FY1986 continuing appropriations resolution (H.J.Res. 465) to prohibit the availability of funds for the

¹⁰ The Zangger Committee, or Nuclear Exporters Committee, has established guidelines for export control of nuclear items in Article III of the Nuclear Nonproliferation Treaty. 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.

¹¹ CRS Report RL31555, *China and Proliferation of Weapons of Mass Destruction and Missiles: Policy Issues*, by Shirley Kan.

¹² Ann MacLachlan, “China Makes Strong Nonproliferation Pledge in IAEA Conference Address,” *Nucleonics Week*, September 27, 1984.

¹³ *New York Times*, April 27, 1984.

¹⁴ Ron Redmond, “China Elaborates Nuclear Non-proliferation Policy,” *UPI*, January 25, 1985.

transfer of nuclear equipment, materials, or technology to China until the President certifies to Congress that the standards and methods of verifying peaceful use of U.S. nuclear exports will be equivalent to those applied by the IAEA. On December 9, 1984, the Senate adopted the amendment (by voice vote), but it was dropped in the conference committee.¹⁵

Reagan Submits Agreement in 1985

Although the agreement was initialed during Reagan's visit to China in April 1984, the President did not submit it to Congress until July 1985, apparently timed for a visit by PRC President Li Xiannian, who arrived in Washington, D.C., on July 22, 1985, and was to be treated to a state dinner at the White House. Prior to this visit, Administration officials briefed Congress and the press about supposed new written assurances from China about nuclear nonproliferation. Members included Senator Alan Cranston, who had reported in May 1984 that PRC nuclear technicians were in Pakistan at a suspected nuclear weapon facility. The Administration, however, did not release the written assurance and said that the language of the agreement remained largely the same.¹⁶ Secretary of Energy John Herrington and Li Peng signed the agreement on July 23, 1985.

Administration's Concerns. Although President Reagan's top officials approved the agreement, there were acknowledgments of problems in the agreement as well as disagreements within the Administration. Kenneth Adelman, Director of the Arms Control and Disarmament Agency (ACDA), wrote in his memorandum for the President that "the proposed Agreement meets all the applicable requirements of the Atomic Energy Act and the Nuclear Non-Proliferation Act and its entry into force will substantially benefit U.S. non-proliferation objectives."

Nonetheless, Adelman first acknowledged that

the subject agreement is unique among agreements for peaceful nuclear cooperation concluded since the 1978 Nuclear Non-Proliferation Act. It is the first such agreement with a nuclear-weapon state; and it is with a country that has not, *until recently*, supported non-proliferation measures. Although the agreement was initialed in April 1984, we needed to clarify certain matters related to implementation of China's nuclear policies. Those discussions concluded successfully last month. A major threat to our non-proliferation objectives is the potential for "maverick" suppliers to undercut the safeguards and other controls established through international cooperation and consensus. *In the past*, China's policies were a cause for concern because it neither adhered to that consensus nor accepted other non-proliferation norms." [emphasis added]

Adelman also noted that "a few of the major provisions in the agreement were subject to *long and difficult negotiations*. We have had detailed discussions on what it means in practice not to assist other countries to acquire nuclear explosives. ... *We understand* that China's policy will be implemented in a manner consistent with

¹⁵ Archived CRS Issue Brief IB86050, *Implementation of the U.S.-Chinese Agreement for Nuclear Cooperation*, by Warren Donnelly, September 28, 1989.

¹⁶ Joanne Omang, "U.S.-China Nuclear Pact Near," *Washington Post*, July 22, 1985.

those basic non-proliferation practices common to the United States and other major suppliers. ... The United States sought China's acceptance of IAEA safeguards on U.S. supply under the agreement, *but they adamantly refused to accept that condition.*" [emphasis added]

Finally, Adelman argued that the agreement for U.S. exports provided for "mutually acceptable arrangements," in the future, "*to be established* prior to approval of U.S. exports" that "will include exchanges of information and visits by U.S. government personnel to relevant sites in China where material or equipment subject to the agreement will be stored or used." He also contended that "reprocessing of U.S. origin material *cannot take place without U.S. consent.*" He concluded that "it will be important to ensure that the specific arrangements provide *adequate confidence* that any material or equipment subject to the agreement will be used only for purposes consistent with the agreement."¹⁷ [emphasis added]

Adelman also submitted ACDA's "Nuclear Proliferation Assessment Statement" that detailed the Reagan Administration's justification for the agreement with China, pursuant to Section 123a of the Atomic Energy Act.¹⁸ ACDA reached "a favorable net assessment of the adequacy of the provisions of the proposed agreement to ensure that any assistance furnished thereunder will not be used to further any military or nuclear explosive purpose." It also concluded that execution of the proposed agreement "would advance the non-proliferation program, policy, and objectives of the United States."

Proliferation Concerns. In contrast, Thomas Roberts, Acting Chairman of the Nuclear Regulatory Commission (NRC), wrote a memorandum to President Reagan that offered a different assessment. He referred to reviewing not only the State Department's proposed agreement but also an accompanying "Agreed Minute." He wrote that he agreed with the State Department that the agreement met the legal requirements of Section 123 of the Atomic Energy Act and the Nuclear Non-Proliferation Act. However, Roberts wrote of concerns about "the adequacy of certain assurances provided by the PRC." He wrote that,

We also note that, although we believe the requirements of Section 123 are satisfied, we would have preferred that the agreement contain a clear statement of U.S. consent rights for the subsequent reprocessing or enrichment of U.S.-supplied nuclear reactor fuel or fuel used in U.S.-supplied reactors. Such a statement would eliminate the potential for future misunderstandings.

Our final observation is that the Agreement contains a provision which would expressly qualify the authority of the Congress to enact subsequent legislation affecting the activities covered by the Agreement. Previous agreements for

¹⁷ Kenneth Adelman, Director of the Arms Control and Disarmament Agency, "Memorandum for the President; Subject: U.S.-China Peaceful Nuclear Cooperation Agreement," July 19, 1985.

¹⁸ Kenneth Adelman, "Nuclear Proliferation Assessment Statement," July 19, 1985.

cooperation with other countries have not contained such a provision. The provision could reduce the flexibility of the United States in the future.¹⁹

Formal Submission. On July 24, 1985, President Reagan submitted to Congress the “Agreement Between the United States and the People’s Republic of China Concerning Peaceful Uses of Nuclear Energy,” pursuant to Sections 123(b) and 123(d) of the Atomic Energy Act of 1954, as amended. In his transmittal message, Reagan did not refer to the NRC’s concerns (the memorandum cited above was classified at the time). He noted that the proposed agreement was the first peaceful nuclear cooperation agreement with a Communist country and the only such agreement with another nuclear-weapon state (because cooperation with the United Kingdom and France was covered by U.S. agreements with the European Atomic Energy Community, or EURATOM).

The President first cited China’s “ambitious plans” for a “substantial number of nuclear power stations.” He pointed to China’s steps to “clarify” its non-proliferation and nuclear export policies, including Premier Zhao’s statement, but Reagan did not mention PRC practices. He referred to bilateral “talks” rather than statements or agreements and said that “we can expect” that China’s policy of not assisting a non-nuclear weapon state to acquire nuclear explosives will be implemented in a manner consistent with the basic non-proliferation practices common to the United States and other suppliers. As benefits for U.S. interests, the President wrote that the agreement would “have a significant, positive impact on overall U.S.-China relations;” “provide the United States and its companies an opportunity to participate in another aspect of China’s energy programs, with possible substantial economic benefit;” and “further the non-proliferation and other foreign policy interests of the United States.” Reagan argued that the agreement would not constitute an “unreasonable risk” to common defense and security. He noted that he was submitting the agreement to Congress “without exempting it from any requirement” in section 123(a) of the Atomic Energy Act.²⁰

Issues for Congressional Review

The agreement’s submission began the periods of congressional review: 30 days of continuous session under Section 123(b) to be followed by 60 days of continuous session under Section 123(d) of the Atomic Energy Act. Chaired by Representative Dante Fascell, the House Foreign Affairs Committee held a hearing on July 31, 1985. Secretary of Energy John Herrington, ACDA Director Kenneth Adelman, Ambassador for Non-proliferation Richard Kennedy, and Assistant Secretary of State Paul Wolfowitz testified. Members debated a number of issues, raised in particular by Representative Edward Markey, Chairman of the House Energy and Commerce

¹⁹ Thomas Roberts, Acting Chairman of the Nuclear Regulatory Commission, Memorandum for the President, July 19, 1985 (redacted unclassified version).

²⁰ Ronald Reagan, “Message from the President of the United States Transmitting An Agreement for Cooperation between the Government of the United States of America and the Government of the People’s Republic of China Concerning Peaceful Uses of Nuclear Energy, Pursuant to Secs. 123(b) and 123(d) of the Atomic Energy Act of 1954, as Amended,” July 24, 1985, House Document 99-86.

Subcommittee on Energy Conservation and Power, who testified and submitted his legal analysis of the proposed agreement.²¹

Safeguards and Prior Approvals: Representative Markey raised objections about the agreement, saying that it contained the same “lax terms” as the draft that was initialed in 1984: objections based on a lack of guaranty that safeguards will be maintained for U.S. nuclear materials and equipment to ensure peaceful use; lack of a guaranty of prior approval by the United States of any reprocessing, enrichment, or alteration of nuclear material; and concerns about China’s nuclear exports and technical assistance with other countries. He asserted that,

Instead of obtaining a tightening of the language of the agreement, the Administration reportedly has spent the last year providing itself with classified assurances that the shadowy Chinese technicians purportedly working at Pakistan’s renegade Kahuta uranium enrichment plant have disappeared, and that China is no longer exporting unsafeguarded supplies of heavy water and low-enriched uranium to other threshold nuclear-weapon states such as Argentina and South Africa. It is not enough that the Administration satisfy itself on this count.²²

Unilateral Understanding of Verbal Assurances: Representative Markey also contended that the assurances from China were actually assurances in a secret memorandum or “Non-Paper” of the State Department. In his written statement, he reported that “Ambassador Kennedy reportedly resorted to the device of writing down his own (classified) understanding of China’s new improved nonproliferation policy. While declining to sign this ingenious document, responsible Chinese officials reportedly nodded their assent, and Kennedy raced back to Washington to report this triumph of diplomacy to the President.”

Ambassador Kennedy testified that the Chinese “understood” U.S. legal requirements, “said” they had no “plans” to undertake activities in question, and were concerned about whether the United States would give a timely response. Kennedy also testified that the Chinese made it “clear” that when they “say” that they will not assist other countries to develop nuclear weapons, “this also applies to all nuclear explosives,” acknowledging that it was in question.²³ (During a meeting of the committee to mark-up legislation in November 1985, Deputy Assistant Secretary of State James Devine confirmed Representative Dan Burton’s assertion of confidential summaries of discussions that were not in writing. Devine said that the PRC “assured us orally that they would ... require safeguards on their own exports.”)

Legal Compliance: Representative Markey further testified that the proposed agreement did not reconcile with all the requirements of the Atomic Energy Act, and

²¹ House Committee on Foreign Affairs, “Proposed Nuclear Cooperation Agreement With the People’s Republic of China,” Hearing and Markup on H.J.Res. 404, July 31, November 13, 1985.

²² *Ibid.*

²³ On the PRC’s refusal to give its own assurances in writing, see R. Gregory Nokes, “How the U.S.-China Nuclear Agreement was Saved,” *AP*, August 3, 1985.

so the President should re-submit the agreement with exemption from the criteria for safeguards and prior consent, as stipulated in the “Proxmire Amendment” to the Export Administration Act that amended the Atomic Energy Act.

Congressional Procedure: In his legal memo, Representative Markey wrote that the agreement did not satisfy the requirements of Section 123a(1) and 123a(7), (on safeguards and prior approval).²⁴ (Section 123d provides further that “an agreement for cooperation exempted by the President pursuant to subsection a. from any requirement contained in that subsection shall not become effective unless the Congress adopts, and there is enacted, a joint resolution stating that the Congress does favor such agreement.”) Representative Markey advised that, after asking the President to re-submit the agreement with an exemption from the “strict terms” of those sections, “the Congress would then be in a position to make an affirmative decision as to whether the benefits of this particular agreement outweigh the damages which would flow from deviating from United States’ long-term non-proliferation policy.”

China as a Nuclear Power: In the hearing, Representative William Broomfield pointed out that China was already a nuclear weapon state. Representative Markey later noted that the agreement stated that transferred material, facilities, or components, and material used in or produced through the use of the supplies “shall not be used for any nuclear explosive device, or research specifically on or development of any nuclear explosive device, or for any military purpose,” but did not provide for safeguards to ensure this intent.

Proliferation Risk: As for the risk of nuclear proliferation to other countries, Representative Markey urged his colleagues at the hearing to obtain Top Secret classified briefings from the NRC and the Central Intelligence Agency in order to understand “some unresolved questions that the NRC and others have with respect to the retransfer of nuclear materials and technology.” He referred to a suspected temporary suspension in China’s cooperation with Pakistan’s nuclear program to coincide with the proposed agreement.

Progress in Non-proliferation Policy: Representative Henry Hyde said that “the notion of consultations which are provided by Article 8 does provide the right to visit and to exchange — not simply talk.” He argued that, “getting a closed society to open up and allow us this opportunity to visit and exchange, and the potential to influence their policy, seems to me a move forward.” Representative Benjamin Gilman also asked, “hasn’t negotiation of this agreement served our nonproliferation interests by helping China adopt a more supportive approach to nonproliferation?”

Non-Proliferation Standards: Representative Stephen Solarz asked, “even in a worse case scenario where [the Chinese] reneged on their commitments or it turns out that their understanding of the commitments differed from ourselves and they

²⁴ Representative Edward Markey, “Legal Analysis of the Agreement for Peaceful Nuclear Cooperation with the People’s Republic of China,” submitted for a hearing by the House Committee on Foreign Affairs, “Proposed Nuclear Cooperation Agreement with the People’s Republic of China,” July 31, 1985.

utilize some of the technology we transferred for the purpose of helping other countries develop nuclear weapons, could they not have done that anyway even without this agreement? If so, what do we lose by approving this agreement when potentially it might work in bringing them into the nonproliferation regimes which so far at least they have resisted in terms of full scope safeguards and other things?" In turn, Representative Markey asked, "if we decline to establish by both law and practice a clear, objective standard, ... on what basis then do we turn to the Pakistanis or to the South Africans or to the Indians or to the Libyans or anyone else in the world and say there is still an objective standard for nuclear restraint?" He argued that "we have to decide whether we want a nonproliferation policy or a policy of selective proliferation."

Exception for China: Representative Markey differed with the Administration on whether China should be treated as an exception concerning the question of safeguards, stating that "we insisted that the United Kingdom, a weapons state and our closest ally, accept [safeguards] as part of our nuclear cooperation agreement. So why not the Chinese?" He said that "under the provisions of the Atomic Energy Act, the People's Republic, as a nuclear weapons state, is exempted from the IAEA safeguards requirement. However, contrary to the agreement's erroneous implication, China is not altogether exempted from safeguards requirements."

Precluding Application of Laws: Representative Lawrence Smith raised the question of whether the agreement "waives the appropriate provisions of American law and makes only the agreement the underlying document on which a violation could be claimed." Representative Markey agreed that committing the United States to the nuclear cooperation agreement with China would provide the sole operative language for determining violations and nuclear transfers. Referring to the precedent of congressional debate in 1980 about whether the Nuclear Non-Proliferation Act of 1978 applied retroactively to an agreement for uranium exports to India, Representative Markey asserted that "this agreement ensures that no subsequent language by the United States Congress affects the activities covered by the agreement."

Prejudice: Representative Markey objected to the lack of a guaranty of U.S. prior approval for any reprocessing or enrichment of nuclear materials by China, along with language to consider the activities "favorably."

Precedent: Representative Markey also asked "what the future holds if this vague, elastic, and unverifiable framework of cooperation becomes the standard for nuclear negotiations with other countries?"

Necessity for Diplomacy and Trade: Representative Ted Weiss said, "I think Members of the Congress fully appreciate the importance of cooperation diplomatically and strategically with the People's Republic of China, as well as increased trade relations with the PRC, but I don't think that necessarily requires us to forego the requirements of law adopted by us after very careful consideration."

Unresolved Disputes and Credibility: Representative Dan Burton raised the issue of China's unresolved dispute with and threats to use force against Taiwan. He also raised the question of whether China could be trusted to enter into an agreement.

Other Hearings

Besides the hearing held by the Committee on Foreign Affairs on July 31, 1985, other hearings were held by the:

- House Energy and Commerce Subcommittee on U.S.-Pacific Rim Trade, on September 12, 1985
- House Foreign Affairs Committee, closed hearing, on October 3, 1985
- Senate Foreign Relations Committee, October 9, 1985.²⁵

Legislation and P.L. 99-183

Concerning legislation, Congress had the options of: requesting the President to re-submit the agreement; passing a resolution to disapprove the proposed agreement; passing a resolution to approve it; or passing a resolution to approve it with conditions.

H.Res. 269. On September 20, 1985, Representative Markey introduced H.Res. 269 to request the President to re-submit the proposed agreement with exemptions from Sections 123a(1) and 123a(7) of the Atomic Energy Act.

H.R. 3537. On October 9, 1985, Representative Edward Feighan introduced H.R. 3537 to ensure adequate verification of peaceful uses of nuclear exports to the PRC (modeled on IAEA safeguards). The Administration opposed the bill.²⁶

S. 1754. Also on October 9, 1985, Senator John Glenn introduced S. 1754 to ensure adequate verification of peaceful uses of nuclear exports to the PRC (modeled on IAEA safeguards). The Administration also opposed this bill. Senator Dave Durenberger, Chairman of the Committee on Intelligence, supported the bill. In a floor speech on October 21, 1985, Senator Alan Cranston reported questions about China's assistance for Iran's nuclear program. Senators Richard Lugar and Jesse Helms reportedly supported the Administration.²⁷

H.J.Res. 404. On October 1, 1985, Representative Fascell introduced by request H.J.Res. 404, a joint resolution to approve the proposed agreement. On November 13, 1985, the House Foreign Affairs Committee met to mark up the resolution. Representative Don Bonker offered an amendment, favoring the agreement with conditions. The language added requirements for a Presidential certification before the issuance of export licenses or approval of retransfers and a waiting period of 30 days of continuous session of Congress. The President was to certify that (1) the verification was designed effectively to ensure the peaceful use of U.S. exports; (2) China provided additional details about its nuclear non-proliferation

²⁵ Archived CRS Issue Brief IB86050, *Implementation of the U.S.-Chinese Agreement for Nuclear Cooperation*, by Warren Donnelly, September 28, 1989.

²⁶ *Ibid.*

²⁷ Mark Crawford, "Rumors of China-Iran Trade Clouds Nuke Pact," *ASAP*, November 8, 1985.

policies and all information was in conformity with Section 129 of the Atomic Energy Act (prohibiting nuclear exports to any country that engaged in nuclear proliferation); and (3) the obligation to consider activities favorably shall not prejudice U.S. decision-making. The amendment also declared that each proposed export would be subject to U.S. laws and regulations in effect at the time of each export. The language also called for a Presidential report detailing in unclassified form the PRC's past and current non-proliferation policies as well as practices. Finally, the amendment stated that the agreement with China would not provide a precedent for negotiating other agreements.

Representative Howard Wolpe objected to the language as a unilateral attempt to address the agreement's "deficiencies" with U.S. interpretations. Representative Solarz defended the language, which the Administration accepted, because China already possessed nuclear weapon capability and would have "additional incentives" to refrain from nuclear proliferation. The committee adopted the amendment by voice vote. The committee's report on the bill, H.Rept. 99-382, noted that while U.S. nuclear cooperation with the PRC will in no way further its ability to use nuclear energy for military or explosive uses, the committee "has long been concerned by reports of Chinese nuclear assistance to Pakistan's clandestine nuclear program." On November 20, 1985, the Foreign Affairs Committee reported H.J.Res. 404 (H.Rept. 99-382). The House subsequently passed S.J.Res. 238 in lieu.

S.J.Res. 238 (P.L. 99-183). Meanwhile, the Senate Foreign Relations Committee passed a resolution identical to that of the Foreign Affairs Committee, S.J.Res. 238, the Joint Resolution Relating to the Approval and Implementation of the Proposed Agreement for Nuclear Cooperation Between the United States and the People's Republic of China. The Senate passed (by voice vote) S.J.Res. 238 on November 21, 1985. The House then passed it (307-112) on December 11, 1985. President Reagan signed it on December 16, 1985 (as P.L. 99-183). The agreement took effect on December 30, 1985.²⁸

In his statement upon signing the bill, the President noted that he was required to submit a one-time certification and a one-time report, with the decision about certification assigned "exclusively to the President."²⁹ However, President Reagan did not issue the certification.

Sanctions After the Tiananmen Crackdown

Initial Legislation

On June 4, 1989, Deng Xiaoping and other PRC leaders used the People's Liberation Army (PLA) to brutally suppress demonstrators in Beijing (commonly

²⁸ Archived CRS Issue Brief IB86050, *Implementation of the U.S.-Chinese Agreement for Nuclear Cooperation*, by Warren Donnelly, September 28, 1989.

²⁹ Ronald Reagan, "U.S.-China Nuclear Cooperation Agreement, President's Statement, December 16, 1985," *Weekly Compilation of Presidential Documents*, December 23, 1985.

called the Tiananmen Crackdown in reference to the square that was the focal point of nationwide protests). As part of the U.S. response, on June 21, 1989, Representative Markey sought to limit nuclear cooperation with the PRC by introducing language to H.R. 2655, to amend the Foreign Assistance Act. The language sought to ban the issuance of export licenses and nuclear cooperation unless the President: (1) has made certifications and submitted the report required by P.L. 99-183; (2) has certified to Congress that the PRC government ended martial law and that the human rights situation has “significantly improved;” and (3) has certified to Congress that the PRC government has provided the United States with a “written declaration that it is not directly or indirectly assisting any nation in testing, developing, or acquiring nuclear explosive devices or the materials and components for such devices.”³⁰ On June 29, Representative Dante Fascell introduced sanctions on China in an en bloc amendment (H.Amdt. 107) to H.R. 2655, which passed the House by 418-0. H.R. 2655 was passed in the House but not the Senate.

In the Senate, on July 14, 1989, Senators George Mitchell and Robert Dole introduced an amendment (S.Amdt. 271) to S. 1160, the Foreign Relations Authorization Act for FY1990, seeking to impose additional sanctions against the PRC. Those sanctions included the limitation of nuclear cooperation. The Senate passed the amendment by 81-10. On July 21, the Senate incorporated the bill in the House version (H.R. 1487) and passed it in lieu of S. 1160.

P.L. 101-246

In the end, Congress legislated comprehensive sanctions in response to the Tiananmen Crackdown in H.R. 3792, the Foreign Relations Authorization Act for FYs 1990 and 1991 (introduced on November 21, 1989 and enacted as P.L. 101-246 on February 16, 1990). Section 902(a)(6) of P.L. 101-246 suspended nuclear cooperation with China until the President: (1) certifies to Congress that the PRC “has provided clear and unequivocal assurances to the United States that it is not assisting and will not assist any non-nuclear weapon state, either directly or indirectly, in acquiring nuclear explosive devices or the materials and components for such devices;” (2) makes the certifications and submits the report required by P.L. 99-183; and (3) makes a report under subsection (b)(1) or (2), reporting that the PRC government has made progress in political reforms or that it is “in the national interest” of the United States to terminate a suspension or disapproval.

Implementation of the Agreement

Presidents Reagan and George H. W. Bush did not issue the certifications to implement the agreement. After the deterioration in bilateral ties after the Tiananmen Crackdown of 1989, the relationship with China again deteriorated in the Taiwan Strait Crisis of 1995-1996. President Clinton dramatically underscored U.S. interests in a peaceful resolution of the Taiwan question by deploying two aircraft carrier

³⁰ Archived CRS Issue Brief IB86050, *Implementation of the U.S.-Chinese Agreement for Nuclear Cooperation*, by Warren Donnelly, September 28, 1989; and *Congressional Record*, June 21, 1989, p. H2995.

battle groups near Taiwan in March 1996. Questions persisted about U.S. sanctions for PRC nuclear proliferation activities in Pakistan and Iran.³¹ President Clinton's 1998 certification to Congress conceded that "the United States [had] decided not to proceed with implementation of the 1985 nuclear cooperation agreement because of continuing questions about contacts between Chinese entities and elements associated with the Pakistani nuclear weapons program." He also noted that "nuclear cooperation between China and Iran dates from June 1985."³²

Congressional Action Before Certification

By the spring of 1997, Washington and Beijing discussed efforts to improve ties, including the first formal U.S.-PRC summit in the United States in 12 years. Those discussions included China's request for implementation of the agreement. The Clinton Administration considered a Presidential certification for implementation as the "centerpiece" of a state visit by PRC ruler Jiang Zemin to Washington, D.C., in October 1997. (Jiang was the Communist Party General-Secretary, Central Military Commission Chairman, and PRC President.)

In Congress, Representatives Markey and Solomon led a total of 62 Members to write a letter to President Clinton in July 1997, urging him not to certify.³³ Chaired by Representative Benjamin Gilman, the House International Relations Committee held a hearing on the agreement on October 7, 1997.³⁴ In the Senate, the Committee on Energy and Natural Resources, chaired by Senator Frank Murkowski, held a hearing on October 23, 1997.³⁵ On November 5, 1997, the House passed (by 393-29) an amendment sponsored by Representative Gilman to extend congressional review for implementation of the agreement from 30 to 120 days and provide for expedited review procedures. The language amended H.R. 2358, the Political Freedom in China Act of 1997, which passed the House on November 5, 1997. Meanwhile, U.S. firms, such as Westinghouse Electric Corporation, Asea Brown Boveri (ABB), Bechtel Power Corporation, and Stone and Webster Engineering, lobbied Congress to allow them to bid in a market worth as much as \$50 billion.³⁶

³¹ For more discussion, see CRS Report RL31555, *China and Proliferation of Weapons of Mass Destruction and Missiles: Policy Issues*, by Shirley Kan.

³² William Clinton, "Unclassified Report to Congress on Nonproliferation Policies and Practices of the People's Republic of China," January 12, 1998.

³³ Representatives Edward Markey and Gerald Solomon, "Dear Colleague," June 5, 1997; "Clinton Urged to Deny Nuclear Certification to China," *Reuters*, July 31, 1997.

³⁴ House International Relations Committee, "Implementation of the U.S.-China Nuclear Cooperation Agreement: Whose Interests are Served?," October 7, 1997.

³⁵ Senate Energy and Natural Resources Committee, "U.S.-China Relations," October 23, 1997.

³⁶ Dan Morgan and David Ottaway, "U.S. Reactor Firms Maneuvering to Tap China's Vast Market," *Washington Post*, October 21, 1997.

U.S.-PRC Summit in October 1997

On the eve of the summit in October 1997, the PRC advanced its nuclear non-proliferation policy by joining the Zangger Committee (the NPT's Exporters' Committee) on October 16 and promising in writing not to begin new nuclear projects in Iran (in a confidential letter to Secretary of State Madeleine Albright).³⁷ At the summit on October 29, 1997, President Clinton did not issue the certifications to implement the agreement, but the White House announced that "subject to case-by-case licensing and on-going U.S. monitoring, President Clinton will take action to enable U.S. companies to compete in China's nuclear power market." According to President Clinton, the agreement would serve U.S. national security, environmental, and economic interests, saying that "the United States and China share a strong interest in stopping the spread of weapons of mass destruction and other sophisticated weaponry in unstable regions and rogue states — notably, Iran." The President also said that he welcomed the steps China took and the "clear assurances" it gave that day to help prevent the proliferation of nuclear weapons and related technology and that "on the basis of these steps and assurances," he agreed to move ahead with the nuclear cooperation agreement.³⁸ On October 30, 1997, the State Department announced that "the U.S. and China have agreed to a memorandum of understanding on arrangements for visits and exchanges of information" and asserted that "this memorandum of understanding will permit us to monitor sales and uses of equipment."³⁹

Governmental Cooperation

On October 29, 1997, at the summit in Washington, DC, the U.S. Department of Energy and the PRC State Planning Commission signed an "Agreement of Intent on Cooperation Concerning Peaceful Uses of Nuclear Technology." They intended to exchange technical information and promote cooperation (including joint research and development projects); to enter into an agreement for nuclear-related cooperation; to invite relevant entities to participate in projects; and to engage in cooperation that may include exchanges of technical information, personnel, samples, materials, equipment; training, use of facilities, and other forms of cooperation.⁴⁰ Later, at a summit in Beijing in June 1998, the Department of Energy (DOE) and the PRC State Planning Commission signed an Agreement on Cooperation Concerning Peaceful Uses of Nuclear Technologies, including bringing PRC scientists to U.S.

³⁷ R. Jeffrey Smith, "China's Pledge to End Iran Nuclear Aid Yields U.S. Help," *Washington Post*, October 30, 1997; also see CRS Report RL31555, *China and Proliferation of Weapons of Mass Destruction and Missiles: Policy Issues*, by Shirley Kan.

³⁸ White House, "Fact Sheet: Accomplishments of U.S.-China Summit" and "Press Conference by President Clinton and President Jiang Zemin," Washington, D.C., October 29, 1997.

³⁹ Department of State, "Daily Press Briefing," October 30, 1997.

⁴⁰ "Agreement of Intent on Cooperation Concerning Peaceful Uses of Nuclear Technology Between the Department of Energy of the United States of America and the State Planning Commission of the People's Republic of China," October 29, 1997; White House, "Joint U.S.-China Statement," October 29, 1997; and Department of Energy, fact sheets.

national laboratories, universities, and nuclear reactor facilities.⁴¹ In Beijing, starting on October 24, 2005, DOE's National Nuclear Security Administration (NNSA) and the China Atomic Energy Authority held a week-long Integrated Nuclear Material Management Technology Demonstration on security at civilian nuclear facilities.⁴²

Clinton Certifies Agreement in 1998

On January 12, 1998, President Clinton signed certifications (as required by P.L. 99-183) on China's nuclear nonproliferation policy and practices to implement the 1985 Nuclear Cooperation Agreement. The President also issued the certification and waived a sanction imposed after the Tiananmen Crackdown (in P.L. 101-246). President Clinton submitted his certifications to Congress, contending that "the Agreement will have a significant, positive impact in promoting U.S. nonproliferation and national security interests with China and in building a stronger bilateral relationship with China based on respect for international norms."⁴³

Under Section 902(b)(2) of P.L. 101-246 (waiver authority), President Clinton reported that it was in the "national interest" to terminate the suspension of nuclear cooperation:

- "it is in the U.S. national interest to consolidate and build on the progress China has made in the nonproliferation area, and the implementation of the Agreement for Cooperation between the U.S. and the People's Republic of China Concerning the Peaceful Uses of Nuclear Energy will establish a promising framework for doing so;"
- "it is also in the U.S. national interest to build stronger, mutually advantageous bilateral relations with China based on respect for international norms;"
- "the United States also has an economic national interest ... The Agreement will enable U.S. companies to compete for contracts in the world's fastest growing nuclear energy market."

In making his certification, Clinton submitted to Congress:

- Presidential Determination No. 98-10 (Memorandum for the Secretary of State, "Certification Pursuant to Section (b)(1) of Public Law 99-183 and to Section 902 (a)(6)(B) of Public Law 101-246") dated January 12, 1998;

⁴¹ "Agreement Between the Department of Energy of the United States of America and the State Development Planning Commission of the People's Republic of China on Cooperation Concerning Peaceful Uses of Nuclear Technologies;" and White House, "Fact Sheet: Achievements of the U.S.-China Summit," June 29, 1998.

⁴² Department of Energy, news release, October 24, 2005; *China Daily*, October 24, 2005.

⁴³ William Clinton, letter to Newt Gingrich, Speaker of the House, January 12, 1998.

- Unclassified Report on the PRC's Nonproliferation Policies, Practices, and Assurances Required by P.L. 99-103;
- U.S.-PRC Memorandum of Understanding on Exchanges of Information and Visits (initialed on June 23, 1987) and Side Notes on Protection of Business Confidential Information (signed on October 22, 1997);
- Basis for certification under Section (b)(1)(A) of P.L. 99-183;
- Rationale for Report Required by P.L. 101-246.

Congressional Review

During debate on the agreement, some in Congress, the nonproliferation community, and elsewhere were skeptical that PRC nonproliferation policies and practices had changed sufficiently to warrant the certifications and that they served U.S. interests. They also pointed out that China had not joined the Nuclear Suppliers Group, which required full-scope safeguards. The House International Relations Committee held a hearing on February 4, 1998, in which Robert Einhorn, Deputy Assistant Secretary of State for Nonproliferation, testified for the Clinton Administration.⁴⁴

Congressional review ended on March 18, 1998, with no legislation to block the agreement's implementation, and it has since been implemented. U.S. firms may apply for Export-Import Bank financing and licenses from the NRC and DOE for nuclear exports to China, and foreign firms may apply to re-export U.S. technology.

On March 19, 1998, 13 Members in the House led by Representative Markey wrote to President Clinton to urge him to terminate implementation of the agreement. Also, as amended by Representative Gilman, Section 1523 of the National Defense Authorization Act for FY1999 (P.L. 105-261), enacted on October 17, 1998, requires the President to notify Congress "upon" granting licenses by the NRC for nuclear exports or re-exports to a non-NATO country that has detonated a nuclear explosive device (e.g., China). As required, the State Department, on June 9, 2000, issued the first notification to Congress that the NRC issued a license on February 3, 2000, for the export of tantalite ore to China.

Incomplete Assurances

Visits. President Clinton had submitted his certification with a Memorandum of Understanding (pursuant to Article 8 of the agreement) that was initialed in Washington, DC, on June 23, 1987, but not signed. (Concerning "consultations," Article 8(2) of the agreement stated that the cooperation would be between two nuclear-weapon states and that bilateral safeguards "are not required." It called for

⁴⁴ House International Relations Committee, "Implementation of the U.S.-China Nuclear Cooperation Agreement," February 4, 1998.

“diplomatic channels to establish mutually acceptable arrangements for exchanges of information and visits to material, facilities, and components.) The Memorandum called for annual visits to reactors. In the event of discrepancies, it called for the parties to “consult” to make “mutually acceptable” arrangements for the addition or reduction of visits, in place of safeguards. The President contended that this initialed Memorandum provided for arrangements that met the certification standard of P.L. 99-183 that the arrangements were designed to be effective in ensuring peaceful uses of nuclear material, facilities, or components. In February 1998, the Office of Arms Control and Nonproliferation of the Department of Energy published the “Proposed Subsequent Arrangement Concerning Reciprocal Arrangements for Exchanges of Information and Visits Under the Agreement for Cooperation for Peaceful uses of Nuclear Energy” between the United States and the PRC, noting that it sought to sign the initialed Memorandum which provided the “framework” for arrangements.⁴⁵ The United States and the PRC signed the Memorandum of Understanding on May 6, 1998, and DOE published it.⁴⁶

Re-transfers. Given the PRC’s nuclear cooperation with Pakistan that raised questions of U.S. sanctions,⁴⁷ the Clinton Administration apparently did not have adequate assurances from the PRC that it would not re-transfer and divert U.S. nuclear technology to another country, potentially for military use. The Administration continued negotiations with China on this issue, after the agreement’s implementation.⁴⁸ According to a reported NRC memorandum of April 4, 2000, DOE officials had held up 16 applications for licenses to export U.S. technology since 1998, due to disagreement about assurances, including a U.S. demand for a blanket assurance and a PRC offer of case-by-case assurances.⁴⁹ Those cases were called “Part 810 cases” in reference to the DOE’s export controls that are regulated by Part 810 of Title 10 of the Code of Federal Regulations.

On September 16, 2003, in Vienna, Austria, Secretary of Energy Spencer Abraham and the chairman of China’s Atomic Energy Authority apparently agreed to assurances from China that U.S. nuclear technology would not be re-transferred by China to third parties without prior U.S. consent. The understanding, however, was reached in an exchange of diplomatic notes to “establish a process for determining what nuclear technologies require government-to-government nonproliferation assurances and set forth procedures for exchanging the assurances.” Afterwards, the Bush Administration continued to seek assurances to prevent unauthorized re-transfers by China.⁵⁰

⁴⁵ *Federal Register*, February 10, 1998.

⁴⁶ *Federal Register*, June 4, 1998.

⁴⁷ For more, see CRS Report RL31555, *China and Proliferation of Weapons of Mass Destruction and Missiles: Policy Issues*, by Shirley Kan.

⁴⁸ *Nucleonics Week*, July 1, 1999.

⁴⁹ Bill Gertz, “Beijing Stalls on Nuclear Promises,” *Washington Times*, May 9, 2000.

⁵⁰ *Nucleonics Week*, September 18, 2003; April 1, 2004.

In September 2004, the State Department publicly stated that the exchange of diplomatic notes in September 2003 followed as a “second significant event” the 1998 implementation of the agreement, which permitted transfers of nuclear reactor fuel and components “based on case-by-case review.” Then, the diplomatic notes “confirmed conditions and assurances governing transfers of nuclear technology which are not covered by the agreement, and those notes provided as well for a case-by-case review.” The NRC issued licences for export of nuclear reactor components under the Nuclear Cooperation Agreement, while the DOE authorized transfers of nuclear technology to China for its civilian nuclear power program based on the PRC’s “written nonproliferation assurances.”⁵¹

U.S. Nuclear Exports

On February 28, 2005, Westinghouse Electric Company (with headquarters near Pittsburgh, PA), then owned by British Nuclear Fuels Limited, submitted a bid for a PRC contract to supply four commercial nuclear reactors. The Bush Administration supported Westinghouse’s bid to sell nuclear reactors to China.⁵² Earlier in February 2005, the Export-Import Bank approved a Preliminary Commitment for guaranteed and/or direct loans of up to \$5 billion to support Westinghouse. Competing against Westinghouse were Areva of France and Atomstroyexport of Russia.⁵³ All three bids were reported to be strongly backed by their respective governments.⁵⁴ In October 2006, British Nuclear Fuels Limited sold Westinghouse Electric Company to Toshiba Corporation of Japan. Toshiba gained 77% of Westinghouse with management control. Another Japanese company bought a 3% stake, and the Shaw Group of the United States bought 20% ownership. Westinghouse Electric Company retained its headquarters in Pittsburgh, PA, and eligibility for financial support from the Export-Import Bank.⁵⁵

Concerns

An article posted on *Human Events Online*, in criticizing the tentative Ex-Im Bank support for the deal, focused on China National Nuclear Corporation (CNNC)’s alleged role in transferring nuclear weapons technology to Pakistan and Iran. By subsidizing the cost of Westinghouse reactors, the article contended, the U.S. Government would be “inviting charges of hypocrisy by dealing with known

⁵¹ Department of State, Daily Press Briefing and Question Taken, September 2, 2004.

⁵² Discussions in Beijing in August 2005 between U.S. officials and a congressional staff delegation reported in CRS General Distribution Memo, “Congressional Staff Delegation’s Visit to the PRC, Hong Kong (August 2005),” September 14, 2005, by Shirley Kan.

⁵³ “Areva, Westinghouse-MHI Submit Bids for New Reactors for China,” *Nucleonics Week*, March 3, 2005, p. 3.

⁵⁴ “With Governments Supporting Bids, Competition in China Looks Fierce,” *Nucleonics Week*, February 24, 2005, p. 1.

⁵⁵ Toshiba, “Toshiba Completes Westinghouse Acquisition,” October 17, 2006; and consultation with Export-Import Bank.

proliferators” and undermining U.S. diplomacy with the Chinese Communist regime. The article further argued that the deal would be inconsistent with U.S. opposition to Russia’s sale of reactor technology to Iran.⁵⁶

CNNC has not been subject to U.S. sanctions for nuclear proliferation. In 1996, some in Congress had called for sanctions after news reports disclosed that China sold unsafeguarded ring magnets to Pakistan, apparently in violation of the NPT and in contradiction of U.S. laws, including the Arms Export Control Act (P.L. 90-629) and Export-Import Bank Act (P.L. 79-173), as amended by the Nuclear Proliferation Prevention Act of 1994 (Title VIII of P.L. 103-236). The China Nuclear Energy Industry Corporation, a subsidiary of the state-owned CNNC reportedly had transferred to the A.Q. Khan Research Laboratory in Kahuta, Pakistan, 5,000 ring magnets that can be used in gas centrifuges to enrich uranium. At the end of February 1996, Secretary of State Warren Christopher reportedly instructed the Ex-Im Bank to suspend financing for commercial deals in China for one month. On May 10, 1996, the State Department announced that China and Pakistan would not be sanctioned, citing a new nuclear nonproliferation promise from China. The Clinton Administration also argued that PRC leaders insisted they were not aware of the magnet transfer and that there was no evidence that the PRC government had willfully aided or abetted Pakistan’s nuclear weapon program through the magnet transfer. Thus, the State Department announced that sanctions were not warranted, and Ex-Im Bank considerations of loans for U.S. exporters to China were returned to normal. That year, Congress responded to the Administration’s determination not to impose sanctions by adding language on “persons” in the Export-Import Bank Act, as amended by Section 1303 of the National Defense Authorization Act for FY1997 (P.L. 104-201), enacted on September 23, 1996.⁵⁷

Westinghouse’s Reactors

The reactors that Westinghouse is selling to China are a new design called the AP-1000, which have never been constructed. However, the AP-1000 received final design approval from the Nuclear Regulatory Commission (NRC) on September 13, 2004. The NRC approved the design certification in December 2005 (as a standard plant that could be built in the United States without further review).

The 1,100-megawatt AP-1000 is an improved version of existing Westinghouse commercial nuclear power plants. Westinghouse pressurized water reactors use “light” (ordinary) water to help sustain the chain reaction in the reactor core and to carry away the resulting heat. The heated water circulates under pressure in a closed loop through heat exchangers that make steam to drive electric generators. This basic Westinghouse pressurized water technology is dominant in the U.S. nuclear power industry and, through licensing arrangements, in most of the world.

⁵⁶ Timothy P. Carney, “U.S. to Fund Chinese Agency Aiding Iranian and Pakistani Nukes,” *Human Events Online*, March 2, 2005.

⁵⁷ For detailed discussion, see CRS Report RL31555, *China and Proliferation of Weapons of Mass Destruction and Missiles: Policy Issues*, by Shirley Kan.

Technological benefits that China might gain from purchasing the Westinghouse reactor as opposed to its French competitor are likely to be modest. China already has four operating commercial reactors supplied by Areva, using updated versions of French reactors originally built under a now-expired Westinghouse license. In the competition for the latest contract in China, both Westinghouse and Areva contended that they offered the most advanced designs available.

There would be no direct effect of the proposed Westinghouse reactor sale on China's nuclear weapons program. China has been a nuclear weapons state since 1964 and already has reactors designed for producing weapons materials. Light water reactors (such as the Westinghouse and Areva designs) are poorly suited for weapons production. In contrast to the PRC situation, the United States opposes Russia's light water reactor construction in Iran, because Iran is not a nuclear weapons state and appears to be using its nuclear power program as a pretext for developing other nuclear fuel cycle facilities that could be used to make weapons.

Indirect benefits that the Westinghouse contract might provide to China's already existing nuclear weapons and nuclear-powered submarine programs are inherently difficult to assess. While there might not be a significant concern about a specific technology transfer to civilian nuclear power plants, there are general concerns about any dual-use transfers to China, particularly with involvement by PRC nuclear engineers in the Westinghouse projects. A staff member for Senate Banking Committee Chairman Richard Shelby was quoted as saying, "There is an inevitable tension that exists between the desire to support U.S. commercial interests abroad on the one hand and the requirement to ensure national security is not endangered through the advancement of those commercial interests."⁵⁸

Westinghouse's commercial interest in the PRC contract are considerable. The project would give the company the opportunity to build a working model of the AP-1000 design and gain a foothold in the potentially large Chinese nuclear power market. Although no new commercial nuclear power plants have been ordered in the United States since 1978, several U.S. utilities are now studying the feasibility of new reactors, and the successful construction of the AP-1000 design in China could be an important factor in their decisions. Nuclear power incentives included in the Energy Policy Act of 2005 (P.L. 109-58) have further increased interest in renewed U.S. reactor construction.

Because the PRC contract envisions a series of four reactors, Westinghouse could also cover some of its "first of a kind" engineering (FOAKE) costs for the AP-1000 and gain some production economies, which could help reduce the price for future buyers. Some FOAKE costs for the AP-1000 are also expected to be paid by the Department of Energy's "Nuclear Power 2010" program. Westinghouse and other nuclear suppliers have long contended that new nuclear power plants could be competitive if a sufficient number of identical reactors were built in a series.

⁵⁸ Timothy P. Carney, "Hill Unlikely to Stop Funding of China Nuke Agency," *Human Events Online*, March 11, 2005.

Deal for Westinghouse

While in Beijing in December 2006, Secretary of Energy Samuel Bodman signed a bilateral Memorandum of Understanding (MOU) that granted the deal to Westinghouse. Secretary Bodman said that the agreement would lead to a multi-billion dollar sale that could create as many as 5,500 jobs in the United States. He also said that Westinghouse agreed to transfer technology to China that could lead to the construction of many more nuclear power reactors in China over 15-20 years. While nuclear power provided 1.5% of energy, that share could increase to 4% if China completes construction of 30 new reactors over 15 years.⁵⁹ While the plan is ambitious, nuclear power would be a limited source of power generation in China.

PRC and foreign sources said in April 2007 that the deciding factor for granting the deal for four reactors to Westinghouse was its terms for technology transfer.⁶⁰ (However, China also awarded France's Areva with contracts to build two reactors at Yangjiang city in southern Guangdong province.)⁶¹ The PRC State Council and four major state-owned enterprises (including CNNC) set up the State Nuclear Power Technology Corporation (SNPTC) in May 2007 as China's authority to sign contracts for nuclear technology transfers from foreign countries. Two of Westinghouse's reactors would be built at Zhejiang province's Sanmen city for CNNC as the primary investor, and two reactors are for Shandong province's Haiyang city for Shandong Nuclear Power Company.⁶² In July 2007, Westinghouse and the Shaw Group signed a contract with SNPTC for the "first-ever deployment of advanced U.S. nuclear power technology in China," with the contract's value estimated at \$8 billion. The four reactors are to be constructed between 2009 and 2015.⁶³

⁵⁹ Department of Energy, "Secretary Bodman's Statement" and "U.S.-Chinese Agreement Provides Path to Further Expansion of Nuclear Energy in China," December 16, 2006.

⁶⁰ Mark Hibbs, "China Demanding AP1000 Localization at Record-Breaking Pace," *Nucleonics Week*, April 26, 2007.

⁶¹ Winnie Zhu and Wang Ying, "Chinese May Shift on Reactors," *International Herald Tribune*, February 14, 2007.

⁶² Ann MacLachlan and Mark Hibbs, "Westinghouse to Sign Contract Soon for Chinese Nuclear Islands," *Nucleonics Week*, May 17, 2007; *Xinhua*, May 22, 2007.

⁶³ Westinghouse, news release, "Westinghouse, Shaw Group Sign Landmark Contracts to Provide Four AP1000 Nuclear Power Plants in China," July 24, 2007; and Chen Aizhu and Jim Bai, "Westinghouse Seals Mega China Nuclear Deal," *Reuters*, July 24, 2007.