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China: Possible Missile Technology Transfers from U.S. Satellite Export Policy – Background and Chronology

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Summary

Congress has been concerned about whether U.S. firms, in exporting satellites, provided expertise to China for use in its ballistic missile and space programs and whether the Clinton Administration's policies have facilitated transfers of military-related technology to China. This CRS report provides background information, congressional action, and a chronology of major developments since 1988.

Some critics oppose satellite exports to China, while others are concerned that the Clinton Administration relaxed export controls and monitoring of commercial satellites in moving the licensing authority from the State Department to Commerce Department in 1996. A range of concerns were prompted by *New York Times* reports in April 1998 that the Justice Department began a criminal investigation into whether Loral Space and Communications Ltd. and Hughes Electronics Corp. violated export control laws. The firms allegedly shared their findings with China on the cause of a rocket's explosion while launching a U.S.-origin satellite in February 1996. In sharing their conclusions, the companies are said to have provided expertise that China could use to improve the accuracy and reliability of its future ballistic missiles, including their guidance systems. At least three classified studies reportedly say that U.S. national security was harmed. Congress and the Justice Department have also investigated Hughes' review of China's launch failure on January 26, 1995.

In addition, the press reports alleged that President Clinton in February 1998 issued the latest waiver of sanctions (for Loral's Chinasat-8) that undermined the investigation by allowing the issuance of licenses for the export of assistance similar to that in question. Moreover, the *Times* article alleged that political considerations may have influenced the Administration's decision, since Loral's chairman was the largest individual donor to the Democratic National Committee for the 1996 election.

In the fall of 1998, Congress passed the FY 1999 National Defense Authorization Act that transferred licensing authority over satellites back to the State Department on March 15, 1999. On December 30, 1998, the Cox Committee unanimously approved a classified report concluding that China's technology acquisitions over the past 20 years, not only that associated with satellite launches, have harmed U.S. national security. The Senate Intelligence Committee released its unclassified report on May 7, and the Cox Committee issued a declassified report on May 25, 1999. On October 5, 1999, the President signed into law the FY2000 National Defense Authorization Act (P.L. 106-65) in which Congress addressed export controls relating to missile technology, satellites, and other issues. In April 2000, the State Department charged Lockheed Martin Corp. with violating export controls, but they agreed in June to a settlement involving penalties of \$13 million. Congress may watch for possible further legal action by the Justice Department based on the investigations (begun in September 1997), any new waivers or licenses for exports of satellites (such as Chinasat-8), and a possible review of the U.S. policy to export satellites to China (given their potential military use).

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Introduction

Members of Congress have been concerned about allegations that U.S. firms provided expertise to the People's Republic of China (PRC) that could be used in its ballistic missile and space programs and that the Clinton Administration's policies on satellite exports facilitated legal or illegal transfers of military-related technology to China. The *New York Times* reported in April 1998 that the Justice Department began a criminal investigation into whether Loral Space and Communications Ltd. (of New York), and Hughes Electronics Corp. (of Los Angeles) violated export control laws.¹ The firms were alleged to have shared their findings with China, without approval from the U.S. government, on the cause of a PRC rocket's explosion while launching a U.S.-origin satellite in February 1996. In sharing their conclusions, the companies allegedly provided expertise that China could use to improve the accuracy and reliability of its ballistic missiles, including their guidance systems. Several classified government studies reportedly concluded that the U.S. technical assistance provided to China damaged U.S. national security by helping the PRC to improve the guidance systems on its ballistic missiles.

In addition, the media reports alleged that President Clinton in February 1998 issued a waiver of sanctions that undermined the investigation by allowing the issuance of licenses for the export of technology or expertise similar to that in question — despite “strong opposition” from Justice. Moreover, political considerations allegedly influenced the Administration's decision, with Loral's chairman being the largest individual donor to the Democratic Party in 1996.

This CRS report provides detailed background information, significant congressional and administration action, and a comprehensive chronology. The events summarized below, based on various open sources and interviews, pertain to various aspects of U.S. foreign and security policy:

- U.S. policy since the Reagan Administration to allow exports of satellites to China (increasingly for its use, not just launch);
- Presidential waivers for exports of satellites, including the latest waiver for Chinasat-8 (built by Loral) during an ongoing criminal investigation into

¹ Gerth, Jeff. “Companies are Investigated for Aid to China on Rockets,” and “Aerospace Firms' Ties with China Raise Questions,” *New York Times*, April 4 and 13, 1998.

- alleged assistance by Loral and Hughes to China's missile program; waivers are for U.S. sanctions imposed after China's Tiananmen Square crackdown;
- sanctions imposed for missile proliferation by China's space launch company, China Great Wall Industry Corporation, and other companies;
 - quotas on PRC launches of satellites;
 - controls on exports of U.S.-origin satellites and/or satellite technology, as well as controls and monitoring of technical exchanges with PRC engineers;
 - export controls to prevent technology transfers that could contribute to China's ballistic missile force and/or military satellites.

Congressional investigations have also led to media reports in early 1999, confirmed by U.S. intelligence in April and the Cox Committee's declassified report in May 1999, that the PRC obtained information on U.S. nuclear weapons.² Members are concerned about the PRC's modernization of its ballistic missiles.³

Background

China Great Wall Industry Corporation

China Great Wall Industry Corporation (CGWIC, or China Great Wall) has been China's commercial space launch company since 1986. It markets the use of rockets developed by the China Academy of Launch Vehicle Technology (CALT) and other aerospace academies. China Great Wall and CALT are part of China's defense-related aerospace industry under the China Aerospace Corporation (abbreviated by China as CASC). CASC, established in 1993, oversees space as well as missile research and development. CASC and its subordinate companies, research academies, and factories develop and produce strategic and tactical ballistic missiles, space launch vehicles, surface-to-air missiles, cruise missiles, and military (reconnaissance, communications, or other) and civilian satellites. CASC was previously known as the Ministry of Aerospace Industry, also known as the Seventh Ministry of Machine Building. Since April 1998, China's military, the People's Liberation Army (PLA), has exercised control over PRC satellites under the new General Equipment Department.

China reportedly launched its first satellite, Dongfanghong ("East is Red") on April 24, 1970. By the end of 1997, China reportedly had launched 40 domestic satellites: 17 retrievable reconnaissance satellites, 3 meteorological satellites, 8 communications and broadcasting satellites, and 12 "experimental" (possibly military) satellites. China is using the satellites and space technology to enhance its national defense, economy, and international prestige.⁴ On April 7, 1990, China Great Wall

² See also: CRS Report RL30143, *China: Suspected Acquisition of U.S. Nuclear Weapon Data*, and CRS Report RL30220, *China's Technology Acquisitions: Cox Committee's Report — Findings, Issues, and Recommendations*, by Shirley A. Kan.

³ See CRS Report 97-391, *China: Ballistic and Cruise Missiles*, by Shirley A. Kan.

⁴Chou Kuan-wu, "China's Reconnaissance Satellites," *Kuang Chiao Ching* (in Hong Kong), (continued...)

launched a foreign satellite, Asiasat, for the first time.⁵ Since then, the company has expanded its foreign business, especially with U.S. firms such as Hughes Electronics, Lockheed Martin, and Loral Space and Communications. China probably seeks foreign capital and technology to apply to its domestic satellite research and development efforts, in part to lessen reliance on purchasing foreign satellites. The president of the Chinese Academy of Space Technology said that the PRC's Dongfanghong (East is Red) satellites match the capacities of advanced satellites built by Hughes, but are backward in satellite navigation and stabilization technologies. The Academy hopes to sell its satellites at world standards by 2000.⁶

China has experienced a number of embarrassing and costly failed satellite launches. In 1992, a PRC rocket stalled while attempting to launch the Optus-B1 satellite and another rocket exploded and destroyed the Optus-B2 satellite (both built by Hughes). In 1995, a Long March rocket exploded and destroyed the Apstar-2 satellite (built by Hughes). In 1996, another PRC rocket exploded and destroyed the Intelsat satellite (built by Loral). Aside from the dramatic explosions, other problems have prevented the PRC rockets from successfully launching satellites into the correct orbits.

China's aerospace industry has shifted from denying all responsibility in failed launches of foreign satellites to a willingness to work with foreign companies in determining the causes of explosions and other failures. This practice may have been a strategy to learn from foreign companies' methods to improve China's rockets, satellites, and other related space technology. China may also have tried to reassure foreign insurance companies and satellite manufacturers that it can solve problems with the Long March rockets.

Missile Technology or Expertise

Security Concerns. One question in the controversy involves the applicability of satellite-launch technology to the modernization of China's ballistic missiles. China Great Wall uses the Long March series of rockets to launch satellites. China's "Long March (LM)" ("*Chang Zheng*") space launch vehicles (SLVs) are related to its "East Wind" ("*Dong Feng*" (DF)) intercontinental ballistic missiles (ICBMs). China has used the LM rockets to launch its

Corresponding Designations

	U.S.	PRC
ICBM:	CSS-3	DF-4
ICBM:	CSS-4	DF-5A
SLV:	LM	CZ

⁴(...continued)

March 16, 1998; translated in FBIS.

⁵For commercial space launches in general, see CRS Issue Brief IB93062, *Space Launch Vehicles: Government Requirements and Commercial Competition*, and CRS Report 98-575, *China's Space Program: A Brief Overview Including Commercial Launches of U.S.-Built Satellites*, by Marcia S. Smith.

⁶Parker, Jeffrey. "China to Expand Rocket Production," *Reuters*, August 25, 1993.

own satellites (since 1970) and foreign satellites (since 1990). The Long March boosters are also produced as China's CSS-3 (DF-4) and CSS-4 (DF-5A) ICBMs deployed in the Second Artillery, the PLA's missile force. China's launch facilities, e.g., the Xichang Satellite Launching Center in Sichuan province, are at PLA bases.

A review of open sources finds agreement that the first Long March rockets used to launch satellites were derived from ballistic missiles developed earlier and that there has been parallel research and development for the modernization of the SLVs and ICBMs.⁷ The CSS-3 ICBM has also been produced as the booster for the LM-1 SLV. The CSS-4 ICBM has also been used as the booster for the LM-2, LM-3, and LM-4 series of SLVs. In a 1984 publication, the Defense Intelligence Agency (DIA) called the LM-1 SLV the "booster variant" of the CSS-3, and LM-2 the "booster variant" of the CSS-4. Indeed, this factor has made it difficult to accurately count the numbers of ICBMs that China has produced and allows for China to increase the potential number of ICBMs available for deployment.

When the Reagan Administration first decided to allow China to launch U.S.-origin satellites, it cited the need to protect "legitimate U.S. national security interests" and promised Congress that an agreement would be concluded with China to safeguard U.S. technology from "possible misuse or diversion."⁸ Such an agreement on technology safeguards was signed on December 17, 1988, but apparently required renegotiation. A new agreement was signed on February 11, 1993. One question concerns whether China has abided by these agreements.

After the end of the Cold War and with increase in U.S.-China trade, some say that national security interests need not be sacrificed by commercial interests. Within the current controversy, some argue that launching satellites from China is in the U.S. national security interest because of the benefits to U.S. satellite manufacturers.⁹

Loral's Case. Specifically, the Department of Justice's investigation looks at Space Systems/Loral (SS/L), Loral's subsidiary in Palo Alto, CA, which chaired a review committee on the launch failure of the Intelsat-708 satellite in February 1996.

⁷Defense Intelligence Agency, *Handbook of the Chinese People's Liberation Army*, November 1984; John Wilson Lewis and Xue Litai, *China Builds the Bomb* (Stanford University Press, 1988); Lennox, Duncan, "China's Development of Ballistic Missiles," *Jane's Intelligence Review*, August 1991; Phillip S. Clark, "Chinese Launch Vehicles — Chang Zheng 1," "Chinese Launch Vehicles — Chang Zheng 2," "Chinese Launch Vehicles — Chang Zheng 3," "Chinese Launch Vehicles — The Rest of the Story," "Chinese Launch Vehicles — Further Details," *Jane's Intelligence Review*, November 1991, May 1992, August 1992, October 1992, June 1993; John Wilson Lewis and Hua Di, "China's Ballistic Missile Programs," *International Security*, Fall 1992; Iris Chang, *Thread of the Silkworm* (BasicBooks, 1995); "People's Republic of China: Offensive Weapons," *Jane's Strategic Weapon Systems*, September 1997; *Jane's Space Directory 1997-98*.

⁸"Export of U.S. Satellite to China for Launch," *Department of State Bulletin*, November 1988.

⁹Hirsh, Michael (*Newsweek*), "The Great Technology Giveaway?" *Foreign Affairs*, Sept./Oct. 1998; Clayton Mowry (executive director of the Satellite Industry Association), "Satellites Do No Good Stuck on the Earth," *Washington Times*, Sept. 8, 1998.

As for Loral's case, Acting Undersecretary of State John Holum confirmed on April 9, 1998, that after the accident in February 1996, the Department of State "became aware that there may have been a violation." The case was referred to the Department of Justice for investigation. He said that there are "strong legal remedies" for violations of export control laws, including a denial of future licenses.

Loral issued a statement on May 18, 1998, saying that allegations that it provided missile guidance technology to China are false. Loral also says that it did not advise China "on how to fix any problems with the Long March rocket." The company states that "the Chinese alone conducted an independent investigation of the launch failure [in February 1996] and they determined that the problem was a defective solder joint in the wiring — a 'low-tech' matter." Loral denied that it and Hughes conducted an independent investigation to determine the cause of that launch failure. However, at the insistence of insurance companies, which required non-PRC confirmation of resolutions of problems with Long March rockets, Loral formed a committee of several satellite companies, including Hughes, to review the PRC investigation. According to Loral, the review committee obtained information from the PRC and was not formed to help them solve their problems. The review agreed with the PRC conclusion (that a defective solder joint was responsible), without performing tests or providing any test data to the PRC. The committee did note that further tests by China would be required to establish certainty. Loral says that, during the review, it discussed the committee's work with U.S. officials. As far as Loral's engineers can determine, the statement says, "no sensitive information — no significant technology — was conveyed to the Chinese."

Loral has further explained that in April 1996, at China's request, Dr. Wah L. Lim, then a senior vice president and engineer at Loral, chaired a review committee to study China's technical evaluation of the cause of the accident on Feb. 15, 1996. Loral says China had identified the problem as residing in the inertial measurement unit (IMU) of the guidance system of the rocket. Loral believed that it did not have to request a U.S. government license and monitoring. The first meeting was held in Palo Alto, CA, but the second, in China. Notably, PRC aerospace engineers attended the meetings.

Nevertheless, Loral admitted that, contrary to its policies, "the committee provided a report to the Chinese before consulting with State Department export licensing authorities." According to Loral, as soon as its executives found out in May 1996, the company notified the Departments of State and Defense. In June 1996, Loral provided to the U.S. government a detailed, written report concerning all communications with China. Loral adds that it is in full cooperation with the Justice Department in its investigation and with Congressional committees. Loral concludes that based upon its own review, it "does not believe that any of its employees dealing with China acted illegally or damaged U.S. national security." In addition, the statement says that Loral's chairman, Bernard Schwartz, was not personally involved in any aspect of this matter. "No political favors or benefits of any kind were requested or extended, directly or indirectly, by any means whatever." Loral also denies any connection between the launch failure in February 1996 and the Presidential waiver for another Loral-built satellite in February 1998. The export license for the latest launch (for Chinasat-8) "applied the strictest prohibitions on technology transfer and specified that any new launch failure investigation would

require a separate license.” Loral stresses that it complies strictly with export control laws and regulations.

Administration officials say that export licensing procedures and strict security measures (including monitoring by the Defense Department of pre-launch meetings and the launches) preclude any assistance to the design, development, operation, maintenance, modification, or repair of any launch facility or rocket in China. Moreover, Undersecretary of Commerce William Reinsch testified to Congress on April 28, 1998, that effective export controls on dual-use technology (with military and civilian applications) allow U.S. exporters to compete while protecting U.S. security interests. He disputed that there were objections within the executive branch to allowing recent satellite exports to China, saying that since November 1996 (when the licensing jurisdiction was transferred from the Department of State to Commerce), the Commerce Department has issued three export licenses for satellites to be launched from China – with the concurrence of all agencies.

However, at least three classified studies have found serious concerns about the U.S. firms’ assistance to China’s ballistic missile modernization program. A classified report at the Department of Defense’s Defense Technology Security Administration (DTSA) reportedly concluded on May 16, 1997, that Loral and Hughes transferred expertise to China that significantly enhanced the guidance and control systems of its nuclear ballistic missiles and that “United States national security has been harmed,” according to the *New York Times* (April 13, 1998 and June 27, 1998). These concerns were first raised in a classified report at the Air Force’s National Air Intelligence Center (NAIC) in March 1997 and supported by the State Department’s Intelligence and Research Bureau (INR), according to the *Washington Post* (June 7, 1998). These reports apparently prompted the Justice Department’s criminal investigation that began in September 1997.

Also, the Justice Department had expressed concerns about the February 1998 Presidential waiver for the Chinasat-8 satellite. A memorandum, dated February 12, 1998, written by National Security Adviser Samuel Berger for President Clinton, acknowledged that the Justice Department “cautioned” that such a waiver “could have a significant adverse impact on any prosecution that might take place” in Loral’s case.¹⁰ Finally, there is little public information on the export licenses issued by the State or Commerce Department for technical assistance agreements (TAAs) concerning the transfer of technical assistance and data needed to mate satellites to launch vehicles (so-called “form, fit, and function” technical data).

While Loral’s case continued to be under investigation by a federal grand jury, two incidents occurred with some embarrassment for the Clinton Administration. On March 16, 2000, U.S. Ambassador Joseph Prueher hosted a dinner in Beijing for representatives of Loral, Lockheed Martin, Hughes, CASC, and ChinaSat. The Embassy denied that the subject of an export license for ChinaSat 8 was discussed.¹¹ On July 17, 2000, the Defense Security Service issued an award for “outstanding

¹⁰ The memorandum was printed in the *New York Times*, May 23, 1998.

¹¹ Gertz, Bill, “Envoy Hosted Satellite Firms in China,” *Washington Times*, April 4, 2000.

security performance and practices” to Loral and 49 other companies, but then rescinded the award for Loral after realizing it remains under investigation.¹²

Meanwhile, the Justice Department’s campaign finance task force reportedly found no evidence that Loral’s chairman Bernard Schwartz corruptly influenced President Clinton in his decision to approve Loral’s export of a satellite to China in 1998, according to the contents of an internal memo and related documents disclosed by the press.¹³ At a Senate Judiciary Subcommittee hearing on May 2, 2000, Senator Specter referred to this memo, written to Attorney General Janet Reno in the summer of 1998 by Charles LaBella, then chief of the task force. According to Senator Specter, Schwartz had donated \$1.5 million to the Democratic National Committee. LaBella is said to have written that Schwartz’ case “was a matter which likely did not merit any investigation.” Nonetheless, LaBella recommended that Reno appoint an independent prosecutor to dispose of the case, because the allegations of political favors involved the President. LaBella reportedly also criticized Justice Department officials for ordering the investigation of Schwartz while excluding President Clinton. Reno denied LaBella’s recommendations for the special counsel.

Beyond the Loral Case. Beyond the 1996 incident involving Loral and Hughes, there are wider concerns that the policy of allowing China to launch U.S.-built satellites effectively subsidizes and assists China’s missile modernization. Observers point out that the same PRC companies and engineers work in both civilian and military programs and that much of the technology used in launching satellites can be used in military programs on missiles, satellites, and other areas.

Future developments in China’s ICBM program are believed to be related to that in the space launch program. U.S. intelligence reportedly has gained information about developments in China’s ICBMs from information about PRC SLVs.¹⁴ *June’s Space Directory 1997-98* notes that China is not known to use liquid oxygen/kerosene engines that are used extensively in other countries, “reflecting the space variants’ parallel development alongside storable propellant long range missiles.”

There have been concerns that China may deploy ICBMs with multiple independently targetable reentry vehicles (MIRVs) in the future. In 1999, the House Select Committee on U.S. National Security and Military/Commercial Concerns with the People’s Republic of China (popularly known as the “Cox Committee”) judged that, by 2015, the PLA could deploy up to 100 ICBMs with as many as 1,000 thermonuclear warheads.

¹² Pincus, Walter, “Defense Award Rescinded From Firm Being Probed,” *Washington Post*, July 18, 2000.

¹³ Rempel, William C. and Alan C. Miller, “Internal Justice Memo Excuses Loral From Funds Probe,” *Los Angeles Times*, May 23, 2000. Also see: David Johnston, “Memo Shows Another Push For Clinton Inquiry,” *New York Times*, May 3, 2000.

¹⁴ Pincus, Walter, “U.S. Gains Intelligence Data in China Launches,” *Washington Post*, June 13, 1998.

The Director of Central Intelligence (DCI)'s unclassified damage assessment of the PRC's suspected acquisition of U.S. nuclear weapon secrets found that China already has the "technical capability" to develop a MIRV system for the currently deployed ICBM but has not deployed MIRVs. Nonetheless, the DCI warned that "U.S. information acquired by the Chinese could help them develop a MIRV for a future mobile missile."¹⁵ China first decided to develop MIRVs for deployment in 1970. Development was in part stalled, however, by a lack of capability to miniaturize warheads.¹⁶ The priority for the project on MIRVs was lowered in March 1980, but research and development on MIRVs resumed on November 10, 1983, as part of the DF-5 modification program. Also, China reportedly will add a new solid-propellant third stage (TS) to introduce a new LM-2E/TS SLV. This third stage may have a multiple-satellite dispenser to launch up to 12 satellites. *Jane's Space Directory 1997-1998* reported that China developed a restartable, cryogenic (extremely low temperature) stage 3 for the LM-3 SLV.

Motorola. There had been concerns that Motorola's use of a PRC-developed multi-satellite dispenser (called "Smart Dispenser") on a variant of the LM-2C to launch two Iridium satellites at a time helped the PRC to develop MIRV capability. The *Washington Times* reported that a December 1996 classified study by the Air Force's National Air Intelligence Center (NAIC) concluded that the new PRC-developed "smart dispenser," an upper-stage booster used to launch two satellites for Iridium on one LM 2C/SD rocket, could be modified to deploy multiple re-entry vehicles. Nevertheless, the report noted that there is no evidence that China is using the dispenser, built in 1996, for warheads and that the PRC multiple warhead system would be less accurate than U.S. and Russian systems.¹⁷ A Pentagon spokesman said on July 14, 1998, that Motorola provided data to allow the PRC to attach satellites to the dispenser that it designed without U.S. help and that releasing multiple satellites and targeting multiple warheads require different technology. Moreover, the Cox Committee concluded that "Motorola did not provide the PRC with information on how to design the Smart Dispenser; rather, the PRC built the Smart Dispenser indigenously to Motorola's specifications."¹⁸

Hughes. Some are especially concerned about PRC launches in 1995 and 1996 of three satellites built by Hughes which were not monitored by the Defense Department. On June 18, 1998, Jan Lodal, Principal Deputy Under Secretary of Defense for Policy, testified to a joint hearing of the House National Security and International Relations Committees that there were three launches that were not

¹⁵CIA, "The Intelligence Community Damage Assessment On the Implications of China's Acquisition of U.S. Nuclear Weapons Information on the Development of Future Chinese Weapons," (unclassified release), April 21, 1999. See also: CRS Report RL30143, *China: Suspected Acquisition of U.S. Nuclear Weapon Data*, by Shirley A. Kan.

¹⁶CRS Report 97-1022.

¹⁷Gertz, Bill, "U.S. Technology Builds 'Bridge' for China Missile," *Washington Times*, July 14, 1998.

¹⁸Cox Committee's declassified report, released on May 25, 1999; see CRS Report RL30220, *China's Technology Acquisitions: Cox Committee's Report - Findings, Issues, and Recommendations*, June 8, 1999, by Shirley A. Kan.

monitored by the Defense Department, because the satellites did not require State Department licenses and monitoring had been tied to licenses from the State Department for Munitions List items. The Director of DTSA, Dave Tarbell, testified to the Senate Select Committee on Intelligence on July 15, 1998, that the three unmonitored launches took place in January 1995 (Apstar-2), July 1996 (Apstar-1A), and August 1996 (Chinasat-7). The Department of Defense then concluded that full monitoring should be required for satellites licensed by the Commerce Department, and the requirement was added after late 1996, he said. Nevertheless, Tarbell stated that "we are not aware of any transfer of technology from these unmonitored launches that contributed to China's missile or military satellite capabilities." Hughes responds that its security measures prevented unauthorized technology transfers.

However, Air Force Lieutenant Colonel Al Coates, a former Pentagon official who monitored launches in China until he resigned in November 1998, says that even with monitoring, Hughes employees were more concerned about successful launches and were often careless about discussing sensitive information with the PRC. Coates says he did not get responses from superiors in the Pentagon to his reports of security problems, but has now told Congress and the Justice Department.¹⁹

Some experts say that monitoring of technical exchanges is more crucial than monitoring the launches. Senator Kyl said on July 16, 1998, that, in addition to the three unmonitored launches, there was no monitoring of pre-launch technical exchanges on the mating of satellites to the launch vehicles for three satellite projects: Optus B-3 (Hughes), Echostar-1 (Martin Marietta), and Chinastar-1 (Lockheed Martin).²⁰

Congress and the Justice Department are now also investigating Hughes' review of the PRC launch failure on January 26, 1995 (of the Apstar-2 satellite).²¹ Testifying before a joint hearing of the House National Security and International Relations Committees on June 18, 1998, Under Secretary of Commerce for Export Administration William Reinsch acknowledged that, in the 1995 case, his department alone had allowed Hughes to provide launch failure analysis to China. He stated that after the Apstar-2 launch failure in 1995,

the company involved [Hughes] conducted an analysis without the participation of the Chinese launch service provider. The analysis was written in order to satisfy insurance requirements. The analysis was reviewed by the Department of Commerce, which determined that it contained only information already authorized for export under the original Commerce license issued in February 1994. The unclassified report was provided first to a consortium of Western insurance companies and later to the Chinese launch service provider.

¹⁹ "Did U.S. Companies Share Technology with China?" ABC News, 20/20 Program, December 3, 1998.

²⁰ *Congressional Record*, July 16, 1998; *Aerospace Daily*, July 21, 1998.

²¹ Anselmo, Joseph C. and James R. Asker, "U.S. Broadens Probes of China Tech Transfer" and "Hughes Defends China Security," *Aviation Week and Space Technology*, June 29 and July 6, 1998.

At that hearing, David Tarbell, Director of the Defense Technology Security Administration (DTSA), confirmed that the Department of Defense (DOD) did not monitor the launch or the launch failure analysis. Reinsch acknowledged that the Commerce Department did not consult with either the Department of State or DOD. The decision to release the report to the PRC was made solely by a Commerce Department licensing officer.²² Reinsch also acknowledged, however, that the authority for an additional license to conduct launch failure analysis was later specified to be the Department of State, not Commerce, when the licensing jurisdiction was transferred to Commerce in 1996.

At the request of Congress, DOD's DTSA and NAIC prepared and issued, on December 7, 1998, an initial assessment of the documents concerning Hughes' 1995 investigation that the Department of Commerce provided to DOD in July 1998. The unclassified report says that Commerce did not consult with DOD or State (although the technical assistance constituted a "defense service" under State's export control jurisdiction and subject to DOD's monitoring) nor disclosed the documents until the June 1998 Congressional hearings. The report concluded that Hughes' technical exchanges with the PRC raise national security concerns regarding violating standards of not improving PRC satellite or missile capabilities and "potentially contributing to China's missile capabilities." While the report adds that the benefits likely did not alter the U.S.-China "strategic military balance," the report did not look at whether China used the information for the PLA. DOD and State further examined whether the transferred information benefitted China's military.²³ On December 18, 1998, the State Department's Office of Defense Trade Controls (DTC) completed a sensitive but unclassified report, concluding that Hughes, in reviewing the January 1995 launch failure of Apstar-2, provided technical lessons that are "inherently applicable" to PRC missile as well as satellite launch programs.²⁴

DOD says that, from February to August 1995, Hughes conducted the investigation closely and jointly with the PRC, specifically, CALT and China Great Wall, that included "significant interaction" and meetings in China. Hughes gave PRC aerospace engineers specific information to make their rockets more reliable. According to DOD, Hughes provided "sufficient know-how to correct the overall deficiencies" of "oversimplified" mathematical models used in designing launch vehicles, modifications for launch operations, details about satellite designs, as well as "insights" into U.S. diagnostics for improving rocket and satellite designs. Specifically, Hughes showed China how to improve its coupled loads analysis that is "critically important" for ensuring the integrity of the rocket during flight and "serious flaws" in PRC modeling of aerodynamic loads on the rocket fairing (the top part of

²² Transcript of continuation of hearing on June 23, 1998.

²³ Fulghum, David A. and Joseph C. Anselmo, "Pentagon Plans New Look At China Tech Transfer," *Aviation Week & Space Technology*, December 14, 1998.

²⁴ For text of the Department of State's memo, see the Cox Committee's declassified May 1999 report, volume II, p. 76-84. Gerth, Jeff, "C.I.A. Ignored Report of Payments To Chinese For Satellite Contracts," *New York Times*, December 24, 1998; Warren Ferster, "Export Plan Shrinks Role For Commerce," *Space News*, January 18, 1999.

the rocket that covers payloads). Hughes denies advancing China's missiles and says that its report was approved by the Commerce Department.²⁵

A task force formed by Hughes in December 1999 to assess its export compliance program issued its report on July 25, 2000. Former Senator Sam Nunn and former Undersecretary of Defense Paul Wolfowitz led the task force. They recommended 12 "best practices" for ensuring compliance with export controls.²⁶

Lockheed Martin. On April 4, 2000, the Department of State charged Lockheed Martin Corporation with 30 violations of the Arms Export and Control Act.²⁷ The charges were civil charges and did not involve criminal law. The maximum penalties involved \$15 million and a prohibition against exporting satellites or satellite technology for up to three years.

Lockheed Martin denied that it violated export control laws and said that Martin Marietta (later acquired by Lockheed) had obtained a license from the Department of Commerce before it assessed, in 1994, a PRC kick motor for the Asiasat-2 satellite. A kick motor is fired after launching a satellite to send it into its final orbit. Asiasat-2 is owned by the Asia Satellite Telecommunications Company, based in Hong Kong, that is partly owned by the China International Trust and Investment Corporation (CITIC), a PRC state-owned enterprise. Lockheed said that it had sent its 50-page technical assessment to the Department of Defense for review and removal of sensitive information before sending copies of the study to Asiasat and China Great Wall Industry Corporation. China also denied the charge, claiming that it had developed the kick motor by "entirely relying on its own efforts."²⁸

However, the State Department charged that Lockheed had sent the unedited version to Asiasat, before the Defense Department blacked out all but five pages of the report. The charges also alleged that Lockheed failed to inform the Pentagon that it had already sent 10 unedited copies of the report to Asiasat, until the U.S. Customs Service discovered them. The State Department also said that sharing even the redacted version with China Great Wall violated export controls by sharing technical assistance that might enhance the PRC's space launch vehicles. Lockheed was also charged with identifying flaws in PRC testing procedures, confirming the results of

²⁵ "Department of Defense Initial Assessment of Certain Documents Concerning An Investigation by Hughes Space and Communications Company Into the Failure of the Launch of the Apstar II on China's Long March 2E Launch Vehicle," December 7, 1998. Also see: Pincus, Walter and John Mintz, "Report Faults Hughes On Data Given China," *Washington Post*, December 9, 1998; Jeff Gerth, "Pentagon Inquiry Faults Missile Maker's China Aid," *New York Times*, December 9, 1998; David S. Cloud and Robert S. Greenberger, "Commerce Department is Also Criticized in Pentagon Report of Hughes' Dealings," *Wall Street Journal*, December 10, 1998.

²⁶ Singer, Jeremy, "Study Puts Satellite Export Law Compliance Over Sales," *Defense News*, August 7, 2000; for report, see [<http://www.hughes.com>].

²⁷ Loeb, Vernon, "Lockheed Aided China on Rocket Motor, U.S. Says," *Washington Post*, April 6, 2000.

²⁸ *Xinhua*, April 10, 2000.

PRC tests that identified faulty insulation, and identifying problems with U.S. solid rocket motor technologies.

On June 14, 2000, the Department of State announced that it had reached a consensual settlement with Lockheed Martin that involved total penalties of \$13 million. Lockheed agreed to pay \$8 million over four years and use \$5 million to set up a comprehensive computer control system to which the Departments of Defense and State will have access over the next four years and improved oversight procedures. The State Department said "we think that the information that was transferred was inappropriate, and that the reports that were transferred were not appropriate, and that there was a serious problem here that information had the potential to be used to be applied to missile development."²⁹

Military Benefit. Beyond the question of whether sensitive technology or technical expertise in connection with satellite launches was transferred to China, there is disagreement on the extent to which such transfers have military benefit in the context of China's modernization of its nuclear-armed ballistic missiles and space systems. China reportedly is developing new land-mobile, solid-fuel DF-31 and DF-41 ICBMs for deployment in the early part of the 21st century.³⁰ In charging Lockheed Martin in April 2000 with violating the Arms Export Control Act by assessing a PRC kick motor for the Asiasat-2 satellite, the State Department spokesman declared that "any assistance to China that enhances its capabilities in space launch has the potential to be applied to missile development."³¹

Some, including officials in the Clinton Administration, have stressed that there are differences between the PRC SLVs and ICBMs and there have been no *authorized* missile technology transfers to China. On September 17, 1998, Principal Deputy Assistant Secretary of Defense Franklin Miller testified only about *authorized* significant technology transfers and that satellite launches have not provided any benefits to *current generation* PRC ICBMs. He was not able to elaborate publicly on potential improvements to new PRC ICBMs under development.³² Admiral Joseph Prueher, Commander in Chief of U.S. Pacific forces, said on October 23, 1998, that any transfers of missile technology or know-how in connection with launching U.S. satellites in China have improved PRC ICBMs "only incrementally, not by any quantum leaps and bounds" and "accelerated solution of a technical guidance problem for one of their missiles."³³

²⁹Department of State, press briefing by Richard Boucher, June 14, 2000; David E. Sanger, "U.S. Fines Lockheed \$13 Million in China Satellite Case," *New York Times*, June 14, 2000.

³⁰ See: CRS Report 97-391, *China: Ballistic and Cruise Missiles*, by Shirley A. Kan.

³¹ Loeb, Vernon, "Lockheed Aided China on Rocket Motor, U.S. Says," *Washington Post*, April 6, 2000.

³² Hearing of the Senate Committee on Commerce, Science, and Transportation, "Transfer of Missile Technology to China," September 17, 1998.

³³ Capaccio, Tony, "U.S. Firms Marginally Helped China ICBMs," *Defense Week*, October 26, 1998; "China Benefitted From Tech Transfer, Adm. Prueher Says," *Aerospace Daily*, October 26, 1998.

John Pike, Director of the Space Policy Project at the Federation of American Scientists, has argued that there are significant differences between China's ballistic missiles and the Long March SLVs.³⁴ He says that the Long March SLVs are longer than the CSS-4 ICBM, so they flex more during ascent. They also have bigger nose cones to hold satellites that are bigger than warheads. These characteristics have resulted in stresses on the Long March. He also says that deploying two satellites from one Long March (as China has done for Iridium) is very different from launching MIRVs. Warheads, unlike satellites, are designed to survive greater vibrations and the heat of reentering the atmosphere.

Other experts stress that there are commonalities between the technology as well as technical expertise used in rockets and missiles. A Senate subcommittee provided a graphical comparison of the applicability of technology in SLVs and ballistic missiles prepared by the Central Intelligence Agency (CIA).³⁵ In general terms, the CIA compared 11 categories of technology and equipment. Six, or more than half, of the categories are the same for the SLV and ICBM; four categories are similar; while only missiles contain warheads.

Comparison of SLVs and Missiles
<p>Technology and equipment generally unique to ballistic missiles:</p> <ul style="list-style-type: none"> ● warhead
<p>Technology and equipment that are similar in SLV and ICBM (comparison requires case-by-case analysis):</p> <ul style="list-style-type: none"> ● reentry vehicle ● payload separation ● inertial guidance and control systems ● strap-on boosters
<p>Technology and equipment that are same in SLV and ICBM:</p> <ul style="list-style-type: none"> ● staging mechanisms ● propellants ● air frame, motor cases, liners, and insulation ● engines or motors ● thrust vector control systems

Henry Sokolski (Executive Director of the Nonproliferation Policy Education Center and a Defense official in the Bush Administration) argues that "all of our satellite transfers have helped China perfect its military rocketry." He also writes that "intangible technology" is critical to the timely, reliable, and accurate placement of

³⁴ "The China Satellite Debate," *Proliferation Brief*, June 23, 1998.

³⁵Hearing of the Senate Governmental Affairs Subcommittee on International Security, Proliferation, and Federal Services, "The Benefits of Commercial Space Launch for Foreign ICBM and Satellite Programs," May 21, 1998.

satellites into space as well as launches of warheads against targets by ballistic missiles. Intangible technologies include: coupling load analysis, guidance data packages, upper-stage solid rocket propellant certification, upper-stage control design validation, lower-stage design validation, and general quality assurance. Also, multi-satellite dispensers can be modified as multiple-warhead dispensers, thus assisting China's reported efforts to develop a capability in MIRVs for its ICBMs.³⁶ China has used such dispensers to launch multiple satellites for Iridium.

Experts at the Monterey Institute of International Studies also point out that a significant portion of the components, technology, and expertise used in the research and development of SLVs are "virtually interchangeable" with that of ballistic missiles. These overlaps include: launching multiple satellites from a single SLV and delivering multiple warheads on a single missile. Similar technology involves upper stage control systems (separation and ignition of the upper stage, attitude control, and spin release of satellites), satellite dispensers (delivery of multiple satellites to separate orbits), coupling load analysis (to assure launches without damaging payloads), upper stage solid-fuel engines, and kick motors (to deliver satellites into correct orbits).³⁷

Nevertheless, they also argue that having the capability to launch multiple satellites does not translate into having a military capability to deliver MIRVs. Delivering multiple reentry vehicles into planned trajectories is more difficult than launching multiple satellites into orbit. MIRV capability requires greater precision. Reentry vehicles, unlike satellites, do not have their own kick motors. A MIRV capability requires rocket motors that can stop and restart.

Sanctions

China Great Wall has been affected by two categories of sanctions imposed on China: those imposed after the Tiananmen crackdown and those imposed for missile proliferation. In 1990, the United States imposed post-Tiananmen sanctions as required in the Foreign Relations Authorization Act for FY1990 and FY1991 (P.L. 101-246). Sec. 902(a) requires suspensions in programs related to: (1) Overseas Private Investment Corporation, (2) Trade and Development Agency, (3) exports of Munitions List items, (4) exports of crime control equipment, (5) export of satellites for launch by China, (6) nuclear cooperation, and (7) liberalization of export controls. Suspensions (3) and (5) affected export of satellites to China. Sec. 902(b) allows Presidential waivers of those suspensions by reporting that "it is in the national interest" to terminate a suspension.

As for sanctions related to missile proliferation, on April 30, 1991, the Bush Administration denied licenses for the export of U.S. parts for a PRC satellite, the Dongfanghong-3, citing "serious proliferation concerns." On May 27, 1991, President Bush declared sanctions on China for transferring to Pakistan technology related to the M-11 short-range ballistic missile (category II), but not for the transfer

³⁶ Sokolski, Henry, "US Satellites to China: Unseen Proliferation Concerns," *International Defense Review*, April 1994; "Selling China the Rope....," *Weekly Standard*, June 1, 1998.

³⁷ Lamson, James A. and Wyn Q. Bowen, "'One Arrow, Three Stars:' China's MIRV Program," *Jane's Intelligence Review*, May 1997.

of complete missiles (category I). These sanctions, required by Sec. 73(a) of the Arms Export Control Act (P.L. 90-629) and Sec. 11B(b)(1) of the Export Administration Act (P.L. 96-72), were intended to enforce the Missile Technology Control Regime (MTCR). These sanctions, which took effect on June 16 and 25, 1991, denied export licenses and waivers of sanctions for: (1) high-speed computers to China, which can be used for missile flight testing; (2) satellites for launch by China; and (3) missile technology or equipment. They affected two PRC aerospace corporations: China Great Wall and China Precision Machinery Import Export Corporation. President Bush waived these sanctions on March 23, 1992, after China agreed to abide by the MTCR guidelines.

The Clinton Administration imposed similar, category II sanctions on August 24, 1993, after China was again determined to have transferred M-11 related equipment to Pakistan, but not complete missiles. A total of 11 PRC defense industrial companies were sanctioned, including China Great Wall again. In 1993-1994, the U.S. aerospace industry and aerospace company executives, including then-CEO of Hughes, C. Michael Armstrong, lobbied against sanctions and for expansion of satellite exports to China.³⁸ China, on October 4, 1994, agreed not to export "ground-to-ground missiles" inherently capable of delivering at least 500 kg to at least 300 km – an understanding the U.S. side sought to include the M-11 missiles under the MTCR. On November 1, 1994, the Administration waived those sanctions.

Waivers

Since sanctions for the Tiananmen crackdown were imposed in 1989, Presidents Bush and Clinton have issued 13 waivers for 20 satellite projects (projects may involve multiple satellites), based on "national interest," on a case-by-case basis, to allow the export to China of U.S.-origin satellites or components subject to export controls. (See the Table below.) Waivers have been increasingly issued for satellites used by China – not just launched from China. Some waivers under P.L. 101-246 have specified whether sections 902(a)(3) and 902(a)(5), on Munitions List items and satellites, applied; others simply referred to section 902 or 902(a).

The policy of allowing China to launch U.S.-built satellites has been tied to the missile proliferation issue,³⁹ partly because the same PRC companies are involved in both. Nevertheless, just before the Bush Administration issued missile proliferation sanctions on May 27, 1991, the President issued a waiver of post-Tiananmen sanctions a month before for Australian and Swedish satellites, while denying an export license for U.S. parts for a PRC satellite. The Clinton Administration again imposed missile proliferation sanctions on August 24, 1993, but President Clinton first issued a waiver of post-Tiananmen sanctions on July 2, 1993, for the export of Iridium and Intelsat-8 satellites to China. Then, even while sanctions were in place on China Great Wall and other PRC companies for missile proliferation, President

³⁸CRS Report 96-767, *Chinese Proliferation of Weapons of Mass Destruction: Background and Analysis*, September 13, 1996, by Shirley A. Kan; John Mintz, "White House Papers Trace Hughes Executive's Pressure for China Deals," *Washington Post*, July 27, 1998.

³⁹ See: CRS Issue Brief IB92056, *Chinese Proliferation of Weapons of Mass Destruction: Current Policy Issues*, by Shirley A. Kan.

Clinton issued another waiver of post-Tiananmen sanctions on July 13, 1994. In addition, the Clinton Administration has considered supporting China as a partner in the MTCR, issuing a blanket waiver of sanctions on satellites, and increasing the quota on the numbers of satellites China is allowed to launch – in return for further cooperation in missile nonproliferation, according to a Secret March 12, 1998, National Security Council memo printed in the March 23, 1998 *Washington Times*.

**Table 1. Presidential Waivers of Post-Tiananmen Sanctions
for Exports of Satellites or Parts to China**

Satellite Project (may have multiple satellites per project)	End-User	Manufacturer	Waiver
Asiasat-1 * Asia Satellite Telecommunications is a consortium based in Hong Kong and owned by China International Trust and Investment Corporation (CITIC) of China, Cable and Wireless of Britain, and Hutchison Telecommunications Ltd. Of Hong Kong.	Asia Satellite	Hughes	12/19/89
Aussat (Optus) Freja * In the first waiver, President Bush had waived sanctions for Aussat satellites, but he reissued a new waiver and licenses. He also denied export licenses for U.S. components for a PRC satellite, Dongfanghong-3 (waived later).	Australia Sweden	Hughes various U.S.	4/30/91
Asiasat-2 Apsat (or Apstar) Intelsat-708 Starsat AfriSat (AfriStar) Dongfanghong-3	Asia Satellite APT Satellite Intelsat Afrispac China	Martin Marietta Hughes and Loral Loral (canceled) Alcatel China	9/11/92
Iridium Intelsat-8	Iridium/Motorola Intelsat	Lockheed Martin Lockheed Martin	7/2/93
Echostar	Echostar	Martin Marietta	7/13/94
Mabuhay (Agila 2)	Philippines	Loral	2/6/96
Chinastar-1 (Zhongwei-1) * Used by China Oriental Telecom Satellite Co.	China	Lockheed Martin	2/6/96
Chinasat-7	China	Hughes	2/6/96
Asia Pacific Mobile Telecommunications (APMT) * Various PRC state-owned companies invest in the project.	APT Satellite	Hughes	6/23/96
Globalstar	Globalstar	Loral/Alcatel	7/9/96
Fengyun 1	China	China	11/19/96
SinoSat-1 * Cooperative product between Daimler-Benz Aerospace and China Aerospace Corp.	China	Alcatel/ Aerospatiale	11/23/96
Chinasat-8	China	Loral	2/18/98

Congressional and Administration Action

Hearings of the 105th Congress

Since the Reagan Administration's decision in September 1988 to allow U.S.-built satellites to be launched from China, Members of Congress have expressed concerns about the implications for U.S. national security. After the initial press reports in April 1998, the 105th Congress held a number of open and closed hearings to examine the allegations of corporate misconduct and weaknesses in U.S. policy, including those by the following committees.

Joint Economic Committee, April 28, 1998.
 Senate Governmental Affairs Subcommittee on International Security, Proliferation, and Federal Services, May 21, 1998.
 Senate Intelligence Committee, June 4, 1998.
 Senate Intelligence Committee, June 5, 1998.
 Senate Intelligence Committee, June 10, 1998.
 Senate Foreign Relations Committee, June 11, 1998.
 House National Security/International Relations Committees, June 17, 1998.
 House National Security/International Relations Committees, June 18 and 23, 1998.
 Senate Foreign Relations Subcommittee on East Asian/Pacific Affairs, June 18, 1998.
 Senate Governmental Affairs Subcommittee on International Security, Proliferation, and Federal Services, June 18 and July 8, 1998.
 Senate Intelligence Committee, June 24, 1998.
 House Science Committee, June 25, 1998.
 Senate Foreign Relations Committee, June 25, 1998.
 Senate Governmental Affairs Committee, June 25, 1998.
 Senate Intelligence Committee, July 8, 1998.
 Senate Armed Services Committee, July 9, 1998.
 Senate Intelligence Committee, July 15, 1998.
 Senate Governmental Affairs Subcommittee on International Security, Proliferation, and Federal Services, July 29, 1998.
 Senate Commerce, Science, and Transportation Committee, September 17, 1998.

Investigations

Cox Committee. In addition to those hearings in the 105th Congress, House Speaker Gingrich announced on May 19, 1998, that he wanted to create a select committee, headed by Congressman Cox, to investigate the various allegations concerning this case. The House voted on H.Res. 463 (Solomon) (409-10) on June 18, 1998, to create the Select Committee on U.S. National Security and Military/Commercial Concerns with the People's Republic of China, popularly known as the "Cox Committee."⁴⁰ The committee had nine members: five Republicans (Representatives Cox, Goss, Hansen, Bereuter, and Weldon) and four Democrats (Representatives Dicks, Spratt, Jr., Roybal-Allard, and Scott). The panel held

⁴⁰ Also see CRS Report 98-549, *Transfer of Missile and Satellite Technology to China: A Summary of H.Res. 463 Authorizing a House Select Committee*, by Stephen W. Stathis.

numerous closed hearings and received wide-ranging briefings. The committee expanded its investigations to include policies before the Clinton Administration, other dual-use technology exports, including high-performance computers and machine tools,⁴¹ and suspected acquisitions of U.S. nuclear weapons secrets.

On December 30, 1998, Rep. Cox and Dicks, the chair and ranking Democrat, said in a news conference that the bipartisan committee unanimously approved a 700-page, classified report on its broad, six-month investigation. The committee was extended for the first three months of the 106th Congress to work with the Administration on a declassified version.⁴² Meanwhile, the White House revealed the recommendations in its February 1, 1999 response.

There were then disagreements between the Select Committee and the White House on how much to declassify, particularly about the cases at the nuclear weapon labs. Representative Cox said on March 3, 1999, that the House may vote during the week of March 22 to release an edited, unclassified version of the report, if there were no agreement with the Administration. However, Representative Dicks described such a move as a “dangerous precedent” to release classified information over the President’s objections.⁴³ The House did not vote to release the report without the Administration’s approval, and on March 24, 1999, passed H. Res. 129 to further extend the Select Committee on China for a month, until April 30, 1999. Meanwhile, Representatives Cox and Dicks briefed President Clinton on April 22, 1999, about the findings of the committee’s report.⁴⁴ The House agreed to H. Res. 153, on April 29, 1999, to further extend the committee until May 14, 1999, and approved H. Res. 170, on May 13, 1999, to extend the date to May 31, 1999. On May 25, 1999, the Cox Committee released the declassified version of its January 3, 1999 classified report on its investigation of U.S. technology transfers to China.⁴⁵

The committee concluded that, over at least the last 20 years, China has pursued a “serious, sustained” effort to acquire advanced American technology — covering “more serious national security problems than the Loral-Hughes cases,” and that technology acquisition has harmed U.S. national security. The Committee’s report agreed with intelligence assessments that Loral and Hughes helped to improve China’s

⁴¹ Greenberger, Robert S., “House Panel Expands Its China Satellite Probe,” *Wall Street Journal*, October 7, 1998.

⁴² *Congressional Record*, January 6, 1999.

⁴³ Pomper, Miles A. and Chuck McCutcheon, “State Department Talks Tough to Beijing As GOP Assails ‘Failed’ Policy,” *CQ Weekly*, March 6, 1999; Jeff Gerth and Eric Schmitt, “Political Battle: What to Reveal On China Arms,” *New York Times*, March 10, 1999; Vernon Loeb, “CIA Probe Gets Outside Review,” *Washington Post*, March 16, 1999.

⁴⁴ Risen, James, “U.S. Inquires Why Suspect At Atom Lab Kept Access,” *New York Times*, April 23, 1999.

⁴⁵ U.S. House of Representatives, Select Committee, Report 105-851, *U.S. National Security and Military/Commercial Concerns with the People’s Republic of China*, classified report issued on January 3, 1999; declassified version issued on May 25, 1999. See CRS Report RL30220, *China’s Technology Acquisitions: Cox Committee’s Report — Findings, Issues, and Recommendations*, June 8, 1999, by Shirley A. Kan.

missile capabilities. The committee made 38 recommendations for remedies, including possible legislation, mostly to tighten export controls (e.g., giving the Departments of Defense and State more say) and security at the national labs. The committee apparently did not focus on the question of PRC political donations nor requested the Justice Department to begin new investigations. Loral and Hughes deny having violated the law.⁴⁶

Shifting attention from missile technology to nuclear weapons, the Cox Committee reviewed the most serious concerns that the PRC had stolen information on nuclear weapons allegedly from U.S. national laboratories of the Department of Energy. A third incident has been made public involving the W-88 nuclear warhead (deployed on the Trident II submarine-launched ballistic missile).⁴⁷ The Federal Bureau of Investigation (FBI) has investigated that incident in which China reportedly received data from Los Alamos National Lab in the mid-1980s, but the case was uncovered in 1995. Two other cases involving China and U.S. labs were previously reported.⁴⁸ Representative Dicks said that the most important matter to be learned from the committee's report will be "that for 20 years, starting in the 1980s, we had a major counterintelligence failure at Los Alamos and at other national labs that is now being corrected."⁴⁹ Allegations of the PRC's acquisition of nuclear weapon secrets were publicly confirmed by U.S. intelligence on April 21, 1999.⁵⁰ In 2000, U.S. intelligence reportedly concluded from additional translations of PRC documents obtained in 1995 that PRC espionage has gathered classified information on U.S. ballistic missiles and reentry vehicles, in addition to that on nuclear weapons.⁵¹

According to the Cox Committee, "the PRC has stolen or otherwise illegally obtained U.S. missile and space technology that improves the PRC's military and intelligence capabilities." After three failed satellite launches in 1992, 1995, and 1996,

⁴⁶ Press conference of Representatives Cox and Dicks, December 30, 1998; Gerth, Jeff and Eric Schmitt, "House Panel Says Chinese Obtained U.S. Arms Secrets," *New York Times*, December 31, 1998; John Mintz, "China Aid Hurt U.S. Security, Panel Says," *Washington Post*, December 31, 1998; Robert S. Greenberger, "Hughes, Loral Sales Hurt U.S., Panel Says," *Wall Street Journal*, December 31, 1998.

⁴⁷See CRS Report RL30143, *China: Suspected Acquisition of U.S. Nuclear Weapon Data*, by Shirley A. Kan.

⁴⁸ Mintz, John, "Atomic Labs Criticized For Security Conditions," *Washington Post*, January 1, 1999; Carla Anne Robbins, "China Received Secret Data On Advanced U.S. Warhead," *Wall Street Journal*, January 7, 1999; James Risen and Jeff Gerth, "China Stole Nuclear Secrets From Los Alamos, U.S. Officials Say," *New York Times*, March 6, 1999. On whether China may have passed nuclear weapon design information to Pakistan, see CRS Report 96-767, *Chinese Proliferation of Weapons of Mass Destruction: Background and Analysis*, September 13, 1996, by Shirley A. Kan.

⁴⁹Interview on NBC's "Meet the Press," March 14, 1999.

⁵⁰ CIA, "The Intelligence Community Damage Assessment On The Implications Of China's Acquisition of U.S. Nuclear Weapons Information On the Development of Future Chinese Weapons," unclassified release, April 21, 1999.

⁵¹Pincus, Walter and Vernon Loch, "China Spy Probe Shifts to Missiles," *Washington Post*, October 19, 2000.

U.S. satellite makers (Hughes and Loral) transferred missile design information and know-how to China without required export licenses from the Department of State "in violation of the International Traffic in Arms Regulations." The U.S. firms gave technical information that has improved the "reliability" of PRC rockets used to launch satellites with civilian and military purposes. The information is also useful for the design and improved reliability of "future PRC ballistic missiles." Specifically, the committee found that in 1993 and 1995, Hughes "illegally" recommended to the PRC improvements to the fairing (nose cone that protects the payload), and in 1996, Loral and Hughes helped the PRC improve the guidance of a failed rocket, and in so doing, "deliberately acted without the legally required license and violated U.S. export control laws."

Regarding Hughes, the committee's report printed an unclassified assessment completed on December 18, 1998, by the State Department's Office of Defense Trade Controls. That office concluded that, in reviewing the PRC launch failure of January 1995 that involved a LM-2E space launch vehicle (SLV) and the Apstar II satellite, Hughes engaged in technical discussions with the PRC, without U.S. government monitors, that resulted in "significant improvement to the PRC spacelift program and contributed to China's goal of assured access to space." Moreover, "the lessons learned by the Chinese are inherently applicable to their missile programs as well, since SLVs and ICBMs share many common technologies."

As for Loral and Hughes' activities in 1996, the committee reported that a 1998 interagency review determined that the "technical issue of greatest concern was the exposure of the PRC to Western diagnostic processes, which could lead to improvements in reliability for all PRC missile and rocket programs." The improvements to China's missile program could come from "increased production efficiency, and improved reliability through adoption of improved quality control and reliability-enhancing measures in design and manufacturing that were introduced after the accident investigation, including some that the [Loral-led] Independent Review Committee advocated." The committee judged that the guidance system of the Long March 3B rocket, reviewed by Loral and Hughes in 1996, is "among the systems capable of being adapted for use in the PRC's planned road-mobile intercontinental ballistic missiles" (i.e., the DF-31).

There were previous concerns that after the explosion that destroyed the Loral-built Intelsat 708 satellite in 1996, classified U.S. encryption boards were lost to China. The committee reported that while the two FAC-3R encryption boards were not recovered from the crash site by Loral, they "most likely were destroyed in the explosion." While it is not known whether the PRC recovered the boards, even if they did, "it would be difficult for the PRC to determine the cryptographic algorithm that was imprinted on them," and "reverse-engineering of a damaged board would be even more difficult." Thus, "the National Security Agency remains convinced that there is no risk to other satellite systems, now or in the future, resulting from having not recovering the FAC-3R boards from the PRC."

Contrary to earlier allegations of U.S. assistance for China's development of multiple satellite dispensers and MIRVs, the committee determined that "Motorola did not provide the PRC with information on how to design the Smart Dispenser; rather, the PRC built the Smart Dispenser indigenously to Motorola's specifications."

The Cox report agreed with earlier public assessments of the Administration that, in the 1990s, the PRC has deployed a total of approximately 20 CSS-4 ICBMs in silos, but contrary to the White House's June 1998 announcement of a detargeting agreement with China, "most" of those ICBMs remain targeted on the United States. Nonetheless, the report noted previous statements by U.S. intelligence that the "CSS-4s are deployed in their silos without warheads and without propellants during day-to-day operations." The committee judged that "within 15 years," China's missile modernization program could result in the deployment of up to 100 ICBMs. Moreover, if China aggressively developed MIRVs, it could deploy "upwards of 1,000 thermonuclear warheads on ICBMs by 2015." Confirming suspicions of problems in China's SLBM force, the committee reported that while China developed a JL-1 SLBM to be launched from the PLA's Xia-class nuclear-powered submarine, the PRC has not yet deployed the JL-1 SLBM.

In June 1999, Loral Space and Communications published a full-page response to the Cox report. Loral said that its employees "acted in good faith and did nothing to violate export control regulations or the law or to harm national security." Nonetheless, Loral's statement acknowledged that "mistakes were made." Loral also referred to sensitive information that could have been conveyed at the meetings, saying that "unfortunately, the [Review] Committee secretary, a Loral engineer, had already faxed a copy of the report [reviewing the launch failure] to the Chinese in the process of sending it to the Committee members. However, prior to doing so, the secretary took measures to delete all sensitive material from the report."⁵²

In its recommendations related to satellite exports, the Cox Committee:

- Expected that the executive branch will aggressively implement the Satellite Export Control provisions of the Strom Thurmond National Defense Authorization Act for FY1999.
- Stated that the congressional judgment that the Department of State is the appropriate agency for licensing both exports of satellites and any satellite launch failure investigations must be faithfully and fully implemented.
- Stated that the Department of State must ensure, consistent with national security, that satellite export licenses and notices to Congress are acted on in a timely fashion and that exporters are informed about the progress of their applications and have access to appropriate dispute resolution procedures. The executive branch and Congress should ensure that the Department of State has adequate personnel and resources devoted to processing export license applications.
- Recommended that congressional committees report legislation to ensure that satellite manufacturers are not disadvantaged in collateral areas such as tax credits by the transfer of licensing responsibility to the Department of State.
- Stated that DOD must give high priority to obligations under the Strom Thurmond National Defense Authorization Act, including requirements for monitoring launches and technology control plans.
- Recommended that congressional committees report legislation providing that, in connection with foreign launches of U.S. satellites, DOD shall contract for security personnel who have undergone background checks to verify their

⁵² *Washington Post*, June 15, 1999, p. A27; *Space News*, June 28, 1999.

loyalty and reliability. The number of guards shall be sufficient to maintain 24-hour security of the satellites and all related missile and other sensitive technology. The satellite export licensee shall be required to reimburse DOD for all associated costs of such security.

- Recommended that DOD shall ensure sufficient training for space launch campaign monitors and the assignment of adequate numbers of monitors to space launch campaigns.
- Recommended that DOD monitors shall maintain logs of all information authorized for transmission to the PRC, and such information shall be transmitted to DOD, State, Commerce, and the CIA.
- Recommended that relevant departments and agencies ensure that the laws and regulations on export controls are applied in full to communications among satellite manufacturers, purchasers, and the insurance industry, including communications after launch failures.
- Recommended that, in light of the impact on U.S. national security of insufficient domestic, commercial space launch capacity and competition, congressional committees report legislation to encourage and stimulate further the expansion of such capacity and competition.

Clinton Administration's Response. The Clinton Administration expressed concerns about implications of the Cox Committee's recommendations for U.S. exports. Under Secretary of Commerce William Reinsch said in a speech on export controls to high-tech companies that there are those in Congress who "do not understand" the "political and economic transformations" in recent years and "respond to them by trying to return to the simpler era of the Cold War and a single bipolar adversary. Only this time, it is China. A good example of this is the Cox Committee. . ."⁵³

On February 1, 1999, the National Security Council (NSC) of the White House issued a 32-page unclassified version of its response to the House Select Committee's 38 recommendations,⁵⁴ even before the committee's report is declassified. Those issues pertain to several broad areas:

- security on nuclear weapons at national labs;
- multilateral export control and weapon nonproliferation efforts;
- satellite launches;
- high-performance computers;
- export controls; and
- counter-intelligence.

The White House said it agreed with some of the recommendations or has already addressed those concerns. The NSC, however, opposed other recommendations, including the following objections:

- assessments at the Departments of State, Defense, Energy, and Justice, and the CIA on security risks in U.S.-PRC lab-to-lab exchanges should be conducted by intelligence experts, not inspector generals;

⁵³ Speech to the Silicon Valley Forum, Commonwealth Club, California, January 14, 1999.

⁵⁴NSC, response to recommendations, (unclassified), February 1, 1999; John Mintz, "Clinton: Panel's Export Rules May Delay Deals," *Washington Post*, February 2, 1999.

- the United States should not deny exports of high-performance computers if China does not permit effective end-use verification, including surprise on-site inspections, by an “arbitrary deadline” of September 30, 1999;
- export control procedures do not need longer review periods where an agency’s mid-level officials may “stop the clock” on national security grounds with “indefinite” and “unjustified” delays;
- export control procedures requiring consensus of reviewing agencies would “hinder the deliberative process;”
- new legislation, beyond the Hong Kong Policy Act of 1992, is not needed to require examination of trade flows to China through Hong Kong, U.S. export control policy of treating Hong Kong differently from China, and unmonitored border crossings by PRC military vehicles;
- legislation that would amend the Defense Production Act of 1950 to require mandatory notifications to the Committee on Foreign Investment in the United States (CFIUS) by any U.S. national security-related business of any planned mergers, acquisition, or takeovers by a foreign or foreign-controlled entity could “chill legitimate foreign investment” that is strongly in U.S. interests;
- the Department of Justice deems it “unnecessary” to have legislation directing it to promptly share national security information with other agencies through the establishment of an interagency mechanism.

Senate Intelligence Committee. In the Senate, Majority Leader Lott announced, on May 20, 1998, the creation of a Task Force, led by Senator Shelby (chairman of the Intelligence Committee) and included Senators Thurmond, Helms, Thompson, Cochran, Kyl, and Hutchinson. On May 29, 1998, Senate Democratic Leader Daschle approved a Democratic Task Force, with Senators Kerrey, Biden, Sarbanes, Glenn, Leahy, Levin, Kerry, and Feinstein.

On July 14, 1998, Senator Lott made a floor statement on interim findings that sensitive U.S. technology relating to satellite exports has been transferred to China and that those transfers provided military benefits. He reported five “major interim judgments:”

- the Clinton Administration’s export controls on satellites are wholly inadequate;”
- sensitive technology related to satellite exports has been transferred to China;
- China has received military benefit from U.S. satellite exports;
- the Administration has ignored overwhelming information regarding PRC proliferation and has embarked on a de facto policy designed to protect China and U.S. satellite companies from sanctions under U.S. proliferation laws;
- new information has come to light about China’s efforts to influence the U.S. political process.

Senator Shelby stated on July 14, 1998, that “some of the tendencies of the evidence tend to support” Senator Lott’s statement, but that “the Intelligence Committee has not reached any preliminary judgment.” The Pentagon’s spokesman, Kenneth Bacon, responded to Senator Lott by saying that this Administration has submitted requested documents to Congress and had inherited safeguards from previous Administrations that prevent inappropriate technology transfers to China.

The Senate Intelligence Committee’s investigations covered two categories:

- U.S. export control policies, since 1988, on PRC launches of U.S.-built satellites and implications for U.S. national security;
- any secret PRC program to contribute political donations and influence the U.S. political process in 1996.⁵⁵

On May 7, 1999, the Senate Committee on Intelligence released its 45-page, unclassified report that it had approved two days before in a bipartisan 16-1 vote.⁵⁶ The office of Senator Graham, who dissented, explained he was concerned that the process did not allow sufficient time for the members to review the report before the vote. As urged by Senator Levin, the sections on possible missile technology transfers and PRC efforts to influence U.S. policies were kept separate, because no evidence of a link between the two issues was found.⁵⁷ The report included a number of findings and recommendations.

On security implications of any U.S. technology transfers for China's military and missile programs, the committee found no evidence that U.S. technology has been incorporated into the *currently deployed* PRC ICBM force, while noting that such integration may not be apparent for several years if at all. The report also stated that "extensive assistance from non-U.S. foreign sources probably is more important" than technology transfers associated with satellite launches. Nonetheless, the committee concluded that "the technical information transferred during certain satellite launch campaigns enables the PRC to improve its present and future ICBM force that threatens the United States," as well as short-range and intermediate-range ballistic missiles that threaten U.S. military forces and allies in Asia. Further, U.S. national security may be harmed, according to the report, if China proliferated missile systems improved by U.S. technology. The committee also found that improvements to China's space launch capability also enhanced its use of space for military reconnaissance, communications, and meteorology, posing challenges to U.S. national security. The committee found, that despite assurances of government monitoring and security safeguards, there were security violations and "significant weaknesses" in the implementation of the satellite export policy since the Reagan Administration. U.S. satellite exports to China, the committee concluded, have "created a tension between U.S. national security interests and U.S. commercial interests," and "this tension and conflict of interests have been problematic throughout the U.S.-PRC satellite launch relationship."

The Committee made 10 recommendations related to strengthening controls over satellite exports. These include:

- authority for monitors from the Defense Threat Reduction Agency (DTRA) to suspend launch-related activities;
- strengthening DTRA to monitor satellite launches overseas;

⁵⁵ Senate Select Committee on Intelligence, "Investigation of Impacts to U.S. National Security From Advanced Satellite Technology Exports to China and Chinese Efforts to Influence U.S. Policy: Terms of Reference," June 2, 1998.

⁵⁶ Senate Select Committee on Intelligence, "Report On Impacts To U.S. National Security Of Advanced Satellite Technology Exports to the People's Republic of China (PRC), and Report on the PRC's Efforts to Influence U.S. Policy," May 1999.

⁵⁷ Schmitt, Eric, "Panel Finds Harm in China Launchings," *New York Times*, May 7, 1999.

- annual reports from DTRA to Congress on implementation of technology safeguards;
- adherence by the Department of State to strict timetables in reviewing license applications;
- intelligence review in the licensing process;
- intelligence assessments of foreign efforts to acquire U.S. technology;
- consideration of investigations for export control violations associated with satellite exports;
- call for the Administration to use all available means to obtain PRC compliance with the MTCR;
- efforts by the Administration and Congress to encourage expansion of the U.S. commercial launch industry; and
- reappraisal of the policy to export satellites to China, including whether it should be phased out.

Clinton Administration's Response. The White House issued a response to the Senate Intelligence Committee's report on May 7, 1999.⁵⁸ The Administration acknowledged that it shared the Committee's concern that "unauthorized assistance and transfers of technology relevant to space launch vehicles and ballistic missiles may have occurred during certain space launch failure analyses." The statement also noted the Department of Justice's investigations into those allegations. The White House agreed and confirmed that U.S. concerns do not center on China's "currently deployed ICBM force," but that "unauthorized assistance and transfers of space launch vehicle and satellite technology could assist China in the development of future ballistic missiles." While concurring with most of the committee's recommendations, the Administration disagreed with the last one, saying that "the longstanding policy of permitting the launch of U.S. commercial satellites by China, with strong technology controls, serves our overall national interest." However, this statement did not cover China's increasing use (not just launch) of such satellites.

Export Controls and Intelligence. In addition, congressional investigations expanded to include concerns about alleged politicization of export control and intelligence in the Clinton Administration. Export control specialists skeptical of liberalizing controls on dual-use technology transfers to China complained that decision-makers, in approving exports, have ignored evidence of U.S. firms helping China's military. One manager in DTSA, Michael Maloof, reportedly kept a diary of export control cases critical of the Commerce Department and his superiors at DTSA, including David Tarbell. Maloof's information was shared with the House Select Committee in August 1998 and also with the Department of Justice and Customs Service. His criticisms reportedly covered alleged close ties between Tarbell and Hughes. Tarbell denied showing favoritism to Hughes. The Pentagon's spokesman dismissed Maloof's charges as "ideological differences" about U.S. policy toward China, while Peter Leitner, another DTSA employee who briefed Congress, criticized "long-time ideological opponents" of export controls.⁵⁹

⁵⁸ White House, "Statement by the Press Secretary: Administration Response to Report on China Satellite Launch," May 7, 1999.

⁵⁹ Cloud, David S., "Beijing Export Battle: Case Study of One Hard-Liner," *Wall Street* (continued...)

Meanwhile, at the request of the Senate Intelligence Committee, the Justice Department began an unusual criminal investigation in 1998 into whether the CIA obstructed justice when it allegedly warned Hughes about the committee's interest in some of its employees. CIA officials agreed to testify before a federal grand jury in Washington in December 1998. In April 1996, a CIA analyst, Ronald Pandolfi, had reportedly prepared a National Intelligence Estimate (NIE) on how Hughes may have helped to improve China's missile capabilities, but the CIA reportedly did not approve the NIE. In September 1998, Pandolfi briefed the committee on what he found in 1995 (after Hughes reviewed the explosion of a Long March rocket in January 1995). The CIA then told Hughes about Pandolfi's briefing for the committee. Administration officials have said that the CIA advised Hughes about providing names of its executives to the committee in order to urge Hughes to cooperate and have denied that the CIA tried to hinder the committee's investigation. Nonetheless, the committee has questioned whether the Clinton Administration's policy of engagement with China has influenced intelligence assessments about China.⁶⁰ Confirming that he and Senator Bob Kerrey, the vice chairman, had found out about the CIA's contact with Hughes in an internal CIA cable dated September 23, 1998, and then asked Attorney General Janet Reno for the criminal investigation, Senator Shelby said in September 2000 that the Justice Department decided not to charge an unnamed CIA official with obstructing a Senate investigation.⁶¹

In another case, the Cox Committee asked the CIA to provide a classified cable written in March 1996 on Hughes and Loral that had not been provided to the Justice Department until these congressional investigations began. The CIA's inspector general began investigating the alleged failure to pass the cable to Justice, which the CIA characterized as an oversight. The message was said to have reported on an American consultant, Bansang Lee, who worked for Hughes from 1989 to 1995, when Loral hired him to work on sales of satellites, including Chinasat-8. In helping to sell satellites to China and to export them for launch from there, Lee allegedly made illegal payments to and received payments from PRC aerospace executives. Lee's lawyer stated that Lee "has never made any unlawful or improper payments of any kind to any Chinese official," and spokesmen for Hughes and Loral also denied any wrongdoing.⁶²

Senator Specter's Investigation. In October 1999, Senator Specter, under the jurisdiction of the Senate Judiciary Subcommittee on Administrative Oversight and

⁵⁹(...continued)

Journal, November 27, 1998.

⁶⁰ Loeb, Vernon and John Mintz, "CIA Faces Criminal Probe in China Case," *Washington Post*, December 5, 1998; Jeff Gerth, "Old Concerns Over Data Transfer to China Get New Attention," *New York Times*, December 7, 1998; Robert S. Greenberger and David S. Cloud, "Justice Department Examines CIA Role in Probe Into Hughes' China Dealings," *Wall Street Journal*, December 7, 1998.

⁶¹ Gertz, Bill, "CIA Official Spared Justice Prosecution," *Washington Times*, September 22, 2000.

⁶² Gerth, Jeff, "C.I.A. Ignored Report of Payments to Chinese For Satellite Contracts," *New York Times*, December 24, 1998.

the Courts, began holding hearings in his investigation into the Justice Department's handling of the PRC's suspected acquisition of missile technology and nuclear weapon secrets, campaign finance, Waco, and other issues.

Legislation to Revise Export Controls

105th Congress. In the 105th Congress, the House-passed National Defense Authorization Act for FY1999 (H.R. 3616) included amendments (sections 1206-1209) passed on May 20, 1998, that sought to express the sense of Congress that the United States should not enter into new agreements with China involving space or missile-related technology (Spence, agreed 417-4); prohibit U.S. participation in investigations of PRC launch failures (Bereuter, agreed 414-7); prohibit transfers of missile equipment or technology to China (Hefley, agreed 412-6); and prohibit the export or re-export of U.S. satellites to China (Hunter, agreed 364-54). Also, section 1212 sought to return control over licensing export of satellites from the Commerce Department to the State Department (under the Munitions List controlled under the Arms Export Control Act).

On June 4, 1998, Senator Hutchinson submitted an amendment to the Senate-passed Defense Authorization Act for FY1999 (S. 2057), which was ordered to lie on the table. It sought to amend the language authorizing Presidential waivers of post-Tiananmen sanctions by substituting a narrower basis ("in the vital national security interest") for the current language ("in the national interest"), and add a requirement for the President to submit a detailed justification for each waiver.

On July 22, 1998, Senator Hutchinson filed but did not offer Amendment 3250 to the Senate-passed Defense Appropriations Act for FY1999 (S. 2132/H.R. 4103) to transfer the export control of satellites back to the State Department and require a detailed justification for Presidential waivers of post-Tiananmen sanctions for exports of satellites or defense articles. On July 30, 1998, Senator Kyl proposed Amendment 3398 to this bill to limit the use of funds pending the establishment of the position of Deputy Under Secretary of Defense for Technology Security Policy who would also serve as the director of DTSA.

As agreed to by conferees, the National Defense Authorization Act for FY1999 (P.L. 105-261) transfers the licensing authority over commercial satellites back to the State Department in an effort to strengthen export controls. The act did not ban further satellite exports to China or help the U.S. satellite launch industry, as some have advocated in calling for a reassessment of the policy of allowing China to launch U.S.-origin satellites.⁶³ Others say that it is up to Congress to assess the state of U.S. dual-use export controls by passing a law to replace the Export Administration Act that expired in 1994.⁶⁴ U.S. policy might also distinguish between exports of satellites for PRC launch only and satellites for PRC use. Some say it is difficult to prevent the PLA from using commercial satellites owned by China.

⁶³ Sokolski, Henry, "Protecting High Tech," *Washington Times*, September 30, 1998.

⁶⁴ "Export Act Inertia" (Commentary), *Defense News*, November 2-8, 1998; "Reinsch Says Congress Needs to Revise EAA," *Export Practitioner*, November 1998; Henry Sokolski, "What Now For China Policy?," *Wall Street Journal*, March 15, 1999.

Section 1511 of the act expresses the sense of Congress, among other views, that the President should not issue any blanket waiver of post-Tiananmen sanctions (in P.L. 101-246) for satellite exports to China. Section 1512 requires the President to certify to Congress before exporting missile technology to China that such export will not be detrimental to the U.S. space launch industry and will not measurably improve PRC missile or space launch capabilities. Section 1513 transfers satellites controlled under the Commerce Department's Commerce Control List back to the State Department's Munitions List, effective March 15, 1999. That section also requires a report from the Secretary of State on implementation, improvement to the timeliness and transparency of the license review process, adequacy of resources, and recommendations for amending the Arms Export Control Act. Section 1514 mandates additional requirements to strengthen national security controls over satellite exports, including mandatory licenses for launch failure investigations, mandatory intelligence review of license applications and TAAs considered by the Departments of Commerce and State for foreign launches of satellites, and notification to Congress of export licenses that are issued for satellite launches; with the exception of satellites exported for launch by members of the North Atlantic Treaty Organization (NATO) or a major non-NATO ally. Section 1515 requires a detailed justification to accompany the President's waiver of post-Tiananmen sanctions for satellite exports to China. Section 1521 requires the establishment of a Deputy Under Secretary of Defense for Technology Security Policy who serves as the director of DTSA.

There had been concerns in Congress about how the Administration would implement the requirement to shift licensing authority back to State. Despite signing the act on October 17, 1998, President Clinton said he "strongly opposed" the transfer of authority. He also warned that he would "take action to minimize the potential damage to U.S. interests" and order appropriate agencies to implement the change "in a manner consistent with current dual-use export license processing."⁶⁵ National Security Adviser Samuel Berger reportedly urged a veto and included the strong language.⁶⁶ In coordination with the U.S. satellite industry which prefers speedier and more predictable licensing procedures,⁶⁷ the White House's National Security Council reportedly drafted an executive order for the President to issue to accord the Commerce Department a continuing role in licensing satellite exports, perhaps the authority to appeal the decisions of the State Department on Munitions List items, including satellites.⁶⁸ In response, the chairmen of six House and Senate committees (National Security, Armed Services, International Relations, Foreign

⁶⁵ President William J. Clinton's statement on the FY1999 Defense Authorization Act.

⁶⁶ Lelyveld, Michael S., "Clinton Ripped On Satellites To China," *Journal of Commerce*, December 14, 1998.

⁶⁷ "Conferees' Decision Draws Ire of Satellite Industry," *Aerospace Daily*, September 21, 1998; Interview with John Douglass, President/General Manager, Aerospace Industries Association, *Defense News*, November 2-8, 1998; Interview with Clayton Mowry, Director, U.S. Satellite Industry Association, *Space News*, November 9-15, 1998; "A License to Do Mischief (commentary)," *Space News*, February 1, 1999.

⁶⁸ Opall-Rome, Barbara, "White House Plots To Skirt Congress On Exports," *Defense News*, December 7-13, 1998.

Relations, Intelligence) wrote a letter on December 9, 1998, warning the President against "direct contravention" of the legislation.

As required by section 1513, the Secretary of State submitted to Congress on January 21, 1999, the plan on regaining licensing authority over commercial satellites as Munitions List items on March 15, 1999. It includes a goal (but not a limit) of timely review of licenses within 90 working days; procedures for Commerce to comment, but not veto, licensing reviews; and veto authority for the Defense Department (that is not subject to appeal by the Commerce Department). It stated that "no new Executive Order is needed," and decisions on defense exports are made exclusively by the Departments of State and Defense and "solely on the basis of national security and foreign policy."⁶⁹ The Defense Department's new Space Launch Monitoring Division of the Defense Threat Reduction Agency is reportedly hiring 39 engineers and other staff to review licenses for satellite exports and monitor foreign launches. U.S. firms are to reimburse the costs of monitoring.⁷⁰

106th Congress. In the 106th Congress, Rep. Sweeney introduced **H.R. 281** on January 6, 1999, to prohibit the export to China of satellites and related equipment. On May 19, 1999, he sponsored an amendment to the NASA authorization bill (**H.R. 1654**) to require NASA to certify, before any cooperative agreement with the PRC, that the technology transfer will not improve PRC ballistic missile or space launch capabilities. The House agreed to the amendment. The NASA Authorization Act for FYs 2000, 2001, and 2002 (**P.L. 106-391**, signed into law on October 30, 2000) includes the requirement for certification to Congress, at least 15 days before such an agreement, that it is not detrimental to the U.S. space launch industry and will not improve the PRC's ballistic missile or space launch capabilities (Section 126(a)(2)).

During the mark-up of the Foreign Relations Authorization Act for FY2000, **H.R. 1211**, by the Committee on International Relations on April 14, 1999, Representative Rohrabacher introduced an amendment to give preferential treatment in licensing for export of satellites and related items to NATO allies, major non-NATO allies, and other friendly countries; but not for China, countries that potentially pose a security threat to the United States, or countries likely to proliferate satellite technology to countries of security concern. (The FY1999 National Defense Authorization Act already exempts NATO and non-NATO allies from the more stringent export controls.) As amended by Representative Gejdenson, however, the approved section 210 of **H.R. 1211** (H. Rpt. 106-122) does not have references to China and other countries not subject to preferential treatment. Rohrabacher's amendment also directs the Secretary of State to obligate \$2 million to the Office of Defense Trade Controls to expedite the review of satellite export licenses.⁷¹

⁶⁹ "Report by The Secretary of State Pursuant to Section 1513(d) of the NDAA for FY1999," January 21, 1999; Robert S. Greenberger and David S. Cloud, "State Department Seeks to Allay Fears With 90-Day Satellite-License Reviews," *Wall Street Journal*, January 29, 1999; NSC unclassified response to the Cox Committee's recommendations, February 1, 1999.

⁷⁰Ferster, Warren, "Pentagon Hires Staff For Review Office," *Space News*, April 26, 1999.

⁷¹ House Report 106-122; "\$2 Million Pushed For State Tech Transfer Office; Attempt to (continued...)

On May 27, 1999, the Senate agreed by voice vote to Senator Lott's amendment to the National Defense Authorization Act for FY2000 (S. 1059). The amendment sought to improve the monitoring of satellite exports and strengthen safeguards, security, and counterintelligence at DOE facilities.⁷² On June 9, 1999, Representative Cox introduced an amendment⁷³ to the House's version (H.R. 1401). The amendment consisted of 27 sections, with 25 sections requiring reports or other actions, or amending the law; a section simply providing a short title; and a section providing a definition of "national laboratory." The sections or subsections of the Cox amendment addressed fully or partially 21 of the 38 recommendations of the Cox Committee. The House agreed to the Cox amendment by 428-0 on that day and passed H.R. 1401 on June 10, 1999. In September 1999, Congress approved the conference report (H. Rpt. 106-301) on S. 1059. The act, signed into law (P.L. 106-65) on October 5, 1999, includes sections 1401-1412 that addresses export controls as they relate to missile technology, satellites, high-performance computers, multilateral export controls, monitoring of foreign satellite launches, State Department licensing, improved intelligence consultation, and notification to Congress of investigations into possible export control violations by satellite makers. In addition, section 1612(b) expressed the sense of Congress that the policy of exporting satellites to the PRC for launch should be reexamined, with a review of whether to phase out that policy. Congress did not require a report on this review.

On May 10, 2000, Rep. Gejdenson introduced H.R. 4417 to transfer export controls over satellites back to the Secretary of Commerce. It would also provide for certain procedures for satellite exports to the PRC.

Denied and Pending Satellite Exports

In addition to the FY1999 Defense Authorization Act, Congress also passed omnibus legislation (P.L. 105-277, Sec. 101(b)) appropriating funds for the Department of Commerce in FY1999 that required notification to Congress before expending funds to process licenses for satellite exports to China. On November 20, 1998, the Commerce Department reported processing of two export license applications. Commerce again notified Congress on February 1, 1999, that it was processing three additional applications to export satellites to China. Those five satellite projects considered by Commerce were: Chinasat-8R, Asia Pacific Mobile Telecommunications (APMT), Asiasat-3sb/4, Command and Control Software for Satellites, and Iridium.

APMT. However, at least one of these, the APMT satellite project, has encountered controversy. On July 2, 1998, the State Department suspended a license issued in 1996 to Hughes that permitted Shen Jun, son of a PLA lieutenant general,

⁷¹(...continued)

Add Controls on China is Stymied," *Spacebusiness Today*, April 20, 1999; Warren Ferster, "Pentagon Establishes Office To Review Satellite Export Requests," *Defense News*, May 3, 1999.

⁷²For language of amendment, see *Congressional Record*, May 26, 1999, p. S6073-6074.

⁷³*Congressional Record*, June 8, 1999, p. H3862-3866.

to work on the \$450 million deal for the APMT consortium. Shen Jun's father, Lt. Gen. Shen Rongjun, was a Deputy Director of the Commission on Science, Technology, and Industry for National Defense (COSTIND) from 1985 to 1998, with special responsibility for aerospace. Also, the Administration re-examined the APMT project, in part because the PRC governmental investors include those with ties to the military: COSTIND, China Launch and Tracking Control, CASC, Ministry of Information Industry, and China Telecommunications Broadcasting Satellite Corp. (Chinasat). (In April 1998, COSTIND was reorganized as a civilian organization under the State Council, while the PLA retained control over satellites under the new General Equipment Department.) Some are concerned that the APMT satellite (with powerful spot beams) could be used by the PLA to improve command and control and that the satellite contains sensitive technologies, including a huge 40-ft.-wide antenna and on-board digital processor, also used in Hughes' classified, communications satellites used by the U.S. military. There have also been concerns about Hughes' past record of interaction with PRC aerospace engineers, including the review of the January 1995 launch failure.⁷⁴

As for the PLA's possible use of ostensibly civilian communication satellites, a DTSA official, Michael Maloof, wrote a July 1998 memo about his concerns that the PRC military has used U.S.-made satellites to improve its encrypted command, control, communications, and intelligence (C⁴I), using the Asiasat and Apstar satellites built by Hughes.⁷⁵ In an unclassified report submitted as required by FY1999 appropriations legislation, the Secretary of Defense reported on February 1, 1999, that China's military and civilian leaders are paying "specific attention" to the C⁴I infrastructure. The report further said that "the military's lack of communications satellites could force the PLA to rely on foreign satellite services to meet military needs in wartime or a crisis" and that, in a crisis, "the military would preempt the domestic satellite systems for combat operations."⁷⁶

On February 23, 1999, the Clinton Administration announced that it decided to deny approval to Hughes for the export of the APMT satellite, after the Departments of Defense and State objected to the export, while the Commerce Department favored it.⁷⁷ The Administration cited concerns that the end-user would be the PLA. Hughes responded on March 15, 1999, asking the Administration for a detailed justification

⁷⁴ Also see: CRS Report 96-889, *China: Commission of Science, Technology, and Industry for National Defense (COSTIND) and Defense Industries*, by Shirley A. Kan; Bruce Dorminey and Michael Mechem, "China-led Asian Team Buys Hughes Geomobile Satellites," *Aviation Week & Space Technology*, May 18, 1998; Jeff Gerth, "Administration Rethinking \$650 Million China Satellite Deal," *New York Times*, June 18, 1998; John Mintz, "Hughes Corp. Pressing White House to Clear New Deal with China," *Washington Post*, Aug. 9, 1998; Steven D. Dorfman, Vice Chairman of Hughes, July 13, 1998, letter to the State Department.

⁷⁵ Capaccio, Tony, "China Military Benefitted from U.S. Technology, U.S. Aide Says," *Bloomberg News*, February 16, 1999.

⁷⁶ Secretary of Defense, "Report to Congress Pursuant to the FY99 Appropriations Bill," February 1, 1999.

⁷⁷ Cloud, David S., "Hughes' Sale of a Satellite to China is Imperiled by Concerns at Pentagon," *Wall Street Journal*, February 22, 1999; Jeff Gerth and David E. Sanger, "Citing Security, U.S. Spurns China On Satellite Deal," *New York Times*, February 23, 1999.

for the denial. But on April 14, 1999, Hughes said that the APMT consortium dropped Hughes as the satellite supplier.⁷⁸

Concerning the PLA's use of satellites, a report said that the indigenous satellite (Chinasat-22) launched by China on January 26, 2000, is also called the Feng Huo-1, representing the first of China's military communications satellites for a new battle management system, called the Qu Dian C³I system. The news story cited a classified report by the Defense Intelligence Agency, reportedly describing the Qu Dian system, when fully deployed in several years, as intended to be similar to the U.S. Joint Tactical Information Distribution System (JTIDS), a secure data link network used by U.S. and allied forces.⁷⁹ China has said that it plans to deploy three major satellite systems for remote-sensing, navigation and positioning, and communications.⁸⁰

Chinasat-8. Meanwhile, Loral has encountered a delay in obtaining approval from the Department of State for the export to China of the Chinasat-8 satellite, the subject of the latest Presidential waiver in February 1998, which raised this controversy.⁸¹ In a full-page ad in the May 6, 1998 *Washington Post*, Loral had boasted that Chinasat-8 is the "most powerful satellite China has ever purchased." Chinasat-8 had been scheduled for launch in May 1999. The PRC government entity buying the satellite is the China Telecommunications Broadcast Satellite Corporation, subordinate to the Ministry of Information Industry (MII).⁸² The MII represents a PRC defense industrial sector that was formed in March 1998 in a reorganization that merged the Ministry of Electronics Industry and the Ministry of Posts and Telecommunications.⁸³ Loral's chairman, Bernard Schwartz, argued that the government's delay in granting a technical assistance agreement (TAA) for Chinasat-8 risks the "commercial viability" of the whole U.S. satellite manufacturing industry in Asia.⁸⁴ The trade publication, *Space News*, alleged in September 1999 that "the State Department is delaying approval of the Chinasat 8 TAA to punish Loral for the still unproven allegation that the company broke the law while participating with Hughes in an independent review of a Chinese launch accident investigation." It also protested that "the export licensing process should not be used as a substitute for the

⁷⁸"Singapore Customer Drops Hughes After Export License Delay," *Aerospace Daily*, April 15, 1999.

⁷⁹ Gertz, Bill, "China's Military Links Forces to Boost Power," *Washington Times*, March 16, 2000.

⁸⁰ *Wen Wei Po* [PRC-owned newspaper in Hong Kong], October 31, 2000, translated by FBIS ("China Raises Satellite Positioning, Tracking Capability with Latest Launch").

⁸¹ *Space News*, April 12 and 26, 1999.

⁸² Lawrence, Susan V., "Clipping Their Wings," *Far Eastern Economic Review*, April 8, 1999.

⁸³ Defense Intelligence Agency, "China's International Defense-Industrial Organizations," Defense Intelligence Reference Document DI-1921-60A-98, June 1998.

⁸⁴ Silverstein, Sam, "Loral: Chinasat Delay Threatens U.S. Suppliers' Credibility in Asia," *Space News*, August 23, 1999.

judicial system."⁸⁵ The Department of State reportedly decided not to rule on a license for Chinasat-8 until after a new Administration takes office in January 2001.⁸⁶

Others. On May 10, 1999, as required by section 1512 of the FY1999 National Defense Authorization Act (P.L. 105-261), President Clinton issued certifications for the export of satellite fuels and separation systems for the Iridium satellite project (owned by Motorola). He certified that the export is not detrimental to the U.S. space launch industry and that the material and equipment, including any indirect technical benefit that could be derived from such export, will not measurably improve PRC missile or space launch capabilities.⁸⁷

⁸⁵ "Free Chinasat 8," (commentary), *Space News*, September 6, 1999.

⁸⁶ *Space News*, October 2, 2000.

⁸⁷ Jefferson, William J., "Certification Regarding Export of Satellite Fuels to China," *Congressional Record*, May 11, 1999, p. H2955; S5029.

Chronology

Date	Event
1988	
9/9/88	The Reagan Administration notified Congress that it will approve the first export licenses for the use of PRC space launch services (for one Asiasat and two Aussat satellites), subject to conditions.
12/17/88	The United States and China signed agreements to establish technology safeguards on launching satellites from China and on insurance liability; and initialed an agreement on international commercial launch services.
1989	
Jan. 1989	The United States and China signed an agreement for six years under which China agreed to charge prices for commercial launch services "on a par" with Western competitors and to allow China to launch nine U.S.-built satellites through 1994.
6/4/89	Crackdown on peaceful, political demonstrators in Beijing.
12/19/89	President Bush waived sanctions for export of Aussat-1, Aussat-2, and Asiasat communications satellites for launch from China, under sec. 610 of the Department of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations act 1990 (P.L. 101-162).
1990	
2/16/90	P.L. 101-246 enacted to require post-Tiananmen sanctions, including suspensions in approving exports to China of Munitions List items and satellites.
4/7/90	China Great Wall Industry Corporation, using a LM-3 rocket, launched a foreign satellite, Asiasat (built by Hughes), for the first time.
1991	
4/30/91	President Bush waived sanctions under Sec. 902(b) of P.L. 101-246 to allow exports of Aussat-1 and -2 and Freja satellites for launch from China in part because China was not the end-user. President Bush denied a license to export U.S. satellite components for a PRC satellite, Dongfanghong-3, citing "serious proliferation concerns." In addition, <i>Space News</i> (May 6-12, 1991) reported that President Bush's denial was to punish China for attempting to obtain classified

missile-related technology. The license to export parts for Dongfanghong-3 was requested by a German firm, but the U.S. components were produced by M/A-COM, Inc. (Burlington, MA).

- 6/16/91 The Bush Administration announced sanctions to be imposed on China for transferring missile related technology to Pakistan. The sanctions affected high technology trade with China, covering (1) high performance computers, (2) satellites for launch from China (except for the Freja and Aussat satellites), and (3) sanctions for missile proliferation as required by the Arms Export Control Act and Export Administration Act (imposed on China Great Wall Industry Corp. and China Precision Machinery Import/Export Corp.). The U.S. sanctions were intended to enforce the MTCR.
- 6/25/91 The sanctions on the two PRC state-owned companies for missile proliferation in Pakistan took effect.
- 11/21/91 After Secretary of State James Baker visited Beijing, the PRC foreign ministry issued a vague statement that China "intends to abide" by the MTCR.
- 1992**
- 2/1/92 According to the Bush Administration, the PRC foreign minister sent a secret letter to the U.S. Secretary of State promising to abide by the MTCR.
- 2/22/92 The PRC foreign ministry issued a statement saying that "China will act in accordance with the 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.
- 3/22/92 Aborted launch of Aussat (Optus-B1) satellite from China after LM-2E rocket malfunctioned and the rocket stalled on the launch pad. *Beijing Review* (Nov. 2-8, 1992) reported that the rocket's malfunction was caused by a fault in the ignition system which triggered an emergency shut-down.
- 3/23/92 The Bush Administration effectively waived the sanctions imposed in June 1991 on China for missile proliferation.
- 8/14/92 China successfully launched the Optus-B1 satellite (built by Hughes).
- 9/11/92 President Bush waived sanctions under P.L. 101-246 to allow exports of five satellites (Asiasat-2, Apsat, Intelsat-7A, Starsat, and AfriStar) for launch from China and parts for China's Dongfanghong-3.
- 10/23/92 Under the Bush Administration, the State Department issued a rule to amend section 38 of the Arms Export Control Act. The rule

transferred commercial communications satellites that do not have certain sensitive characteristics (under nine categories) to the export licensing control of the Commerce Department. Military satellites and communications satellites with any of the nine categories of sensitive characteristics remained on the State Department's Munitions List.

- Nov. 1992 China may have supplied M-11 short-range ballistic missiles or related technology to Pakistan, according to President Clinton's report to Congress submitted in May 1993. This transfer may have been taken in retaliation for President Bush's decision in September 1992 to sell F-16 fighters to Taiwan.
- 12/21/92 A PRC LM-2E launch vehicle exploded and destroyed the Australian Optus-B2 satellite (built by Hughes) it was carrying. After the explosion, PRC officials denied that PRC rockets were responsible, blaming the satellite built by Hughes. *Aviation Week and Space Technology* (Jan. 30, 1995) reported that Hughes and China Great Wall Industry Corp. agreed to declare the cause of that failure to be undetermined. Some experts, however, reportedly identified the premature opening of the launch vehicle's payload fairing as causing the accident.
- 1993
- 2/11/93 After renegotiating security procedures, the United States and China signed a new agreement on satellite technology safeguards, superseding the agreement of 12/17/88.
- 5/28/93 President Clinton decided to extend most-favored-nation trade status to China with conditions on human rights, but no linkage to weapons proliferation. Nonetheless, after persistent reports that China was continuing to transfer missile components to Pakistan — if not complete M-11 short-range ballistic missiles, the President also 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."
- 7/2/93 President Clinton waived sanctions under P.L. 101-246 to allow exports to China of Iridium and Intelsat-8 satellites for launch from China.
- 8/16/93 Hughes and CGWIC issued a joint statement after seven months of "vigorous and cooperative investigation" into the cause of the explosion on 12/21/92. The statement did not identify a cause, with each side denying blame.
- 8/24/93 The Clinton Administration determined that China had shipped M-11 related equipment (not missiles) to Pakistan and imposed sanctions required by the Arms Export Control Act and Export Administration Act. The sanctions were imposed on Pakistan's Ministry of Defense

and 11 PRC defense industrial aerospace entities, including China Great Wall Industry Corp. The Category II sanction denied U.S. government contracts and export licenses for missile equipment or technology (items in the MTCR annex) for two years. The Department of State argued that the sanction banned all licenses for satellite exports, but the Department of Commerce argued that the sanction did not cover satellites.

- 8/26/93 The U.S. aerospace industry lobby, including the Aerospace Industries Association, called on the Clinton Administration to weaken the missile proliferation sanctions.⁸⁸
- 8/31/93 One week after imposing sanctions, Assistant Secretary of State Winston Lord said 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."
- 9/25/93 National Security Adviser Anthony Lake told the PRC ambassador that the Clinton Administration was willing to negotiate a waiver of the sanctions, but a more formal and binding PRC commitment than the one made in November 1991 was needed.
- 10/20/93 The *Washington Post* reported that top executives of U.S. satellite manufacturers, Martin Marietta Corp. and Hughes Aircraft Co., were lobbying intensively for the Clinton Administration to waive the export ban for satellites. Reportedly due to these objections from private industry (which were supported by the Commerce Department), the National Security Council (NSC) reviewed the decision to implement the sanctions. In September 1993, Norman R. Augustine, chairman of Martin Marietta, wrote a letter to Vice President Al Gore, arguing that the sanctions "present U.S. companies as an unreliable supplier." Some Members of Congress supported the export of satellites for launch from China.
- 11/9/93 The CEO of Hughes Aircraft Company, C. Michael Armstrong, delivered a speech in which he objected to the inclusion in the sanctions of commercial communications satellites. He also said that he "asked the President of the United States to review the situation."
- 11/16/93 National Security Adviser Anthony Lake wrote a memo to President Clinton proposing the NSC's interpretation of the sanctions imposed in August to allow the export of two satellites controlled by the Commerce Department, but not the five controlled by the State Department. State had argued that all satellite licenses were

⁸⁸Statement 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.

suspended under the sanctions, but Commerce argued that sanctions did not cover any licenses. The President approved the NSC's recommendation.

11/19/93 President Clinton met with PRC President Jiang Zemin at the Asian Pacific Economic Cooperation (APEC) meeting in Seattle. On the eve of the meeting, press reports said that the Administration had formally proposed waiving the sanctions in return for another PRC promise, in more detail and with more authority, not to export MTCR-class missiles.

1994

1/6/94 The Clinton Administration announced a new policy exempting commercial communication satellites from sanctions for missile proliferation imposed on 8/24/93, facilitating export licenses for one Hughes and two Martin Marietta satellites.

4/2/94 A PRC weather satellite exploded in a plant.

7/13/94 President Clinton waived sanctions under P.L. 101-246 for the Echostar satellite to be exported for launch from China.

7/21/94 A PRC LM-3 rocket launched the Apstar-1 satellite (built by Hughes).

8/28/94 A PRC LM-2E rocket launched Australia's Optus-B3 satellite (built by Hughes).

Sept. 1994 Secretary of Commerce Ron Brown led trade delegation to China, including Bernard Schwartz, Loral's chairman.

10/4/94 Secretary of State Warren Christopher and Foreign Minister Qian Qichen issued a joint statement in which the United States agreed to waive the August 1993 sanctions (for missile proliferation) and China agreed not to export "ground-to-ground missiles" that are "inherently capable" of delivering at least 500 kg to at least 300 km (an important understanding meant in part to include the M-11 missiles under the MTCR guidelines).

11/1/94 The Administration's waiver of the sanctions for missile proliferation took effect.

11/30/94 China launched its Dongfanghong-3 satellite, but failed to launch it into the correct position due to a fuel leak.

Dec. 1994 President Clinton selected Armstrong of Hughes to head the Export Council.

1995

- 1/26/95 A PRC LM-2E launch vehicle exploded after liftoff, destroying the Apstar-2 satellite (built by Hughes) it was carrying. Hughes and China Great Wall Industry Corporation were reported as planning to determine the cause of the explosion. (*Aviation Week and Space Technology*, Jan. 30, 1995)
- 2/9/95 The *Wall Street Journal* reported that PRC aerospace industry officials contradicted an official PRC newspaper's account that blamed Hughes for the explosion on January 26, 1995. Instead of blaming Hughes, as *Ta Kung Pao* (in Hong Kong) did, officials from China Great Wall Industries Corp. and the China National Space Administration said that the article did not reflect China's official view and that the investigation had not concluded. A spokesman for Hughes said that a thorough investigation into the cause of the explosion would take months to complete.
- 3/13/95 The United States and China concluded a new agreement for 7 years to allow China to launch up to 11 new satellites to geostationary orbit at prices not less than 15 percent below that charged by Western competitors.
- 7/21-28/95 The PLA Second Artillery test-fired M-9 short-range ballistic missiles toward Taiwan, after Taiwan's president visited Cornell University in June.
- 7/25/95 Hughes and CGWIC issued a joint statement on separate findings of six-month investigations into the cause of the explosion on 1/26/95. CGWIC blamed strong winds for shaking Hughes' satellite apart, while Hughes said that severe winds caused the PRC rocket's fairing to collapse.
- 8/15/95 Hughes provided to the Department of Commerce the final report on the investigation of the launch failure of Apstar-2. The report included a summary of information conveyed to China Great Wall during several meetings that took place from February to June 1995.
- 10/9/95 Secretary of State Warren Christopher initialed a classified memorandum to retain the State Department's licensing authority over commercial communications satellites (cited in *New York Times*, May 17, 1998).
- 11/28/95 A PRC LM-2E rocket launched the Asiasat-2 satellite (built by Martin Marietta), but the bumpy launch knocked the satellite's antenna-feed horns out of alignment, resulting in a loss of signal power. Asiasat company claimed \$58 million in insurance for the damage. (*Flight International*, Oct. 2-8, 1996).
- 12/6/95 President Clinton issued Executive Order 12981 giving the Departments of State, Defense, and Energy, and the Arms Control and Disarmament Agency authority to separately review export

license applications submitted to the Department of Commerce under the Export Administration Act and relevant regulations.

12/28/95 A PRC LM-2E rocket launched the Echostar-1 satellite (built by Martin Marietta).

1996

2/6/96 President Clinton waived sanctions under P.L. 101-246 for the Chinasat-7 satellite to be exported for launch from China.

2/6/96 President Clinton waived sanctions under P.L. 101-246 for 2 Cosat (later called Chinastar) satellites to be exported for launch from China.

2/6/96 President Clinton waived sanctions under P.L. 101-246 for the Mabuhay satellite to be exported for launch from China.

2/15/96 A LM-3B rocket exploded after liftoff, destroyed the Intelsat-708 satellite (built by Loral), and smashed into a village. The death toll was probably higher than the official report of six deaths and 57 injured.

3/8-15/96 Despite the dramatic explosion of a PRC rocket one month before, the PLA's Second Artillery again test-fired M-9 short-range ballistic missiles toward targets close to Taiwan's ports, on the eve of Taiwan's first presidential election.

3/10-11/96 In further deterioration of U.S.-China relations, the United States deployed two carrier battle groups to waters off Taiwan, calling China's live-fire exercises "reckless" and "risky."

3/12/96 President Clinton approved a memo written by then deputy national security adviser Samuel R. Berger to reverse Secretary Christopher's decision of October 1995 and transfer export control authority over commercial satellites from the State Department to the Commerce Department (*New York Times*, July 18, 1998).

3/14/96 The Clinton Administration announced a decision to move commercial communications satellites from the Munitions List to the Commerce Control List of dual-use items, so that the export license jurisdiction was moved from the Department of State to the Department of Commerce (implemented in November 1996).

March 1996 The CIA had a classified cable on an American consultant, Bansang Lee, who worked for Hughes and later Loral, and possible payments exchanged between him and PRC aerospace executives, but the CIA did not pass the cable to the Justice Department until 1998 (*New York Times*, December 24, 1998).

- April 1996 A CIA analyst, Ronald Pandolfi, had reportedly prepared a National Intelligence Estimate (NIE) on how Hughes may have helped improve China's missile capabilities in reviewing the explosion of a Long March rocket in January 1995, but the CIA did not approve the NIE (*New York Times*, December 7, 1998).
- April 1996 At China's request, Dr. Wah L. Lim, then a senior vice president and engineer at Loral, chaired a review committee to study China's technical evaluation of the cause of the accident on Feb. 15, 1996. Loral says China had identified the problem as residing in the inertial measurement unit (IMU) of the guidance system of the rocket. Loral believed that it did not have to request a U.S. government license and monitoring. The first meeting was held in Palo Alto, CA, and the second, in China. PRC engineers participated in the two meetings.
- 5/7/96 A draft preliminary report of Loral's review committee was sent to all participants of the meetings. The report confirmed that the cause of the accident was an electrical flaw in the electronic flight control system. The report allegedly discussed weaknesses in the PRC rocket's guidance and control systems (*New York Times*, April 13, 1998).
- 5/10/96 Loral's executive in charge of export controls told Dr. Wah Lim not to send the report to China.
- 5/13/96 Loral's executives provided the report to the Departments of State and Defense.
- 6/17/96 Loral provided a voluntary disclosure to the Department of State, concerning all communications with China. The company argues that its policy of consultation with the Department of State was not implemented, but it did not violate U.S. laws.
- 6/23/96 President Clinton waived sanctions under P.L. 101-246 for the Asia Pacific Mobile Telecommunications (APMT) satellite to be exported for launch from and use by China.
- 7/3/96 China launched the Apstar-1A satellite (built by Hughes) on a LM-3 rocket.
- 7/9/96 President Clinton waived sanctions under P.L. 101-246 for a Globalstar satellite to be exported for launch from China.⁸⁹
- 8/18/96 China failed to launch its Chinasat-7 satellite (built by Hughes) into the correct orbit, after the third stage of the LM-3 rocket shut down early, reported the *Far Eastern Economic Review* (Aug. 29, 1996).

⁸⁹ China Telecom will invest \$37.5 million to become a full partner in Globalstar, according to *Aviation Week & Space Technology*, October 5, 1998.

- 10/15/96 President Clinton issued an Amendment to Executive Order 12981 (issued on 12/6/95) concerning export licensing procedures for commercial communications satellites and hot-section technologies for commercial aircraft engines that are transferred from the State Department's Munitions List to the Commerce Department's Commerce Control List (of dual-use items).
- 10/21/96 The Bureau of Export Administration of the Department of Commerce issued regulations to implement the transfer of commercial satellites from control under the Munitions List to the Commerce Control List.
- 11/5/96 The Department of State issued regulations to implement the transfer of commercial satellites from control under the Munitions List to the Commerce Control List, even if the satellites include individual components or technologies on the Munitions List.⁹⁰
- 11/19/96 President Clinton waived sanctions under P.L. 101-246 for U.S. parts for the PRC Fengyun-1 (FY-1) meteorological satellite. The waiver cited suspensions under sections 902(a)(3) and 902(a)(5), indicating that technologies controlled under the Munitions List were involved.
- 11/23/96 President Clinton waived sanctions under P.L. 101-246 for the Sinosat satellite to be exported for launch from China. The waiver cited suspensions under sections 902(a)(3) and 902(a)(5), indicating that technologies controlled under the Munitions List were involved.
- 1997**
- March 1997 The Air Force's National Air Intelligence Center (NAIC) reportedly concluded in a classified report that Loral and Hughes provided expertise that helped China to improve the guidance systems on its ballistic missiles and that U.S. national security was damaged (*Washington Post*, June 7, 1998). NAIC's report was sent to DTSA, the State Department, and the Justice Department.
- 5/12/97 China successfully launched its Dongfanghong-3 communications satellite, built by China Aerospace Corp. on a LM-3A rocket, prompting personal congratulations from top government and military leaders.
- 5/16/97 A classified report at DTSA concluded that Loral and Hughes had transferred expertise to China that significantly enhanced the reliability of its nuclear ballistic missiles and "United States national security has been harmed" (*New York Times*, April 13, 1998 and June 27, 1998).

⁹⁰Also see GAO report GAO/NSIAD-97-24, *Export Controls: Change in Export Licensing Jurisdiction for Two Sensitive Dual-Use Items*, January 1997.

- May 1997 The U.S. Trade Representative (USTR) reported that China had violated the pricing provisions of a bilateral agreement on the Mabuhay launch.
- 6/10/97 China successfully launched its Fengyun-2, a second-generation PRC meteorological satellite, on a LM-3 rocket.
- 8/19/97 China launched the Agila 2 (formerly called Mabuhay) satellite (built by Loral).
- 9/1/97 China launched two test satellites for Iridium to demonstrate the technical viability of the new Long March variant, LM-2C/SD.
- 9/10/97 The *Washington Times*, citing Israeli and U.S. intelligence sources, reported that China Great Wall Industry Corporation was supplying key telemetry equipment (for sending and collecting guidance data during flight tests) to Iran for its development of the Shahab-3 and Shahab-4 medium-range ballistic missiles.
- Sept. 1997 Likely prompted by DTSA's report, the Department of Justice began its criminal investigation into allegations that Loral and Hughes illegally passed technical assistance to China.
- 10/17/97 China launched Asia Pacific Telecommunications Satellite (ApStar-2R) (built by Loral) on LM-3B rocket.
- 10/27/97 The USTR announced that the United States and China agreed on new provisions for the Bilateral Agreement on Space Launch Services (signed in 1995). The new provisions set clear terms for PRC pricing of launch services to low earth orbit.
- 11/2/97 After a summit in Washington, PRC President Jiang Zemin toured a Hughes satellite plant in Los Angeles, California.
- 12/8/97 China launched two satellites for Iridium (built by Motorola) on one Long March 2C/SD rocket to low earth orbit. The rocket had two stages and a "smart dispenser" on top that deployed the two satellites.
- 1998**
- 2/12/98 National Security Adviser Samuel Berger wrote a memorandum for President Clinton on whether to waive post-Tiananmen sanctions for the export of the Loral-built Chinasat-8 satellite. Berger said that the Department of State, with the concurrence of the Department of Defense and the Arms Control and Disarmament Agency, recommended the waiver. However, the memo noted that "the Criminal Division of the Justice Department has cautioned that a national-interest waiver in this case could have a significant adverse impact on any prosecution that might take place, based on a pending

- investigation of export violations” by Loral. (printed in the *New York Times*, May 23, 1998)
- 2/18/98 President Clinton waived sanctions under P.L. 101-246 for the Chinasat-8 satellite (built by Loral) to be exported to China. Loral says that it is the most powerful satellite that China has ever bought.
- 3/12/98 Gary Samore, Special Assistant to the President and Senior Director for Nonproliferation and Export Controls in the National Security Council, wrote a Secret memo proposing to support PRC membership in the MTCR, issue a “blanket waiver” of the post-Tiananmen sanctions to cover all future satellite launches, and increase the number of space launches from China — in return for PRC cooperation in missile nonproliferation. (The classified memo was printed in the March 23, 1998, *Washington Times*.)
- 3/16/98 Loral Space and Communications signed an agreement with China Great Wall Industry Corp. to launch five of Loral’s communication satellites between March 1998 and March 2002 using Long March-3B rockets.
- 3/22/98 China Aerospace Corp. kicked off a Quality Promotion Plan to help ensure success in its commercial launch business in research, production, and testing.
- 3/26/98 China launched two Iridium satellites, built by Motorola, on a LM-2C/SD rocket. (According to China, this launch was China’s 15th “successful” commercial launch for foreign customers since 1990.)
- 3/26/98 John Holum, Acting Under Secretary of State for Arms Control and International Security Affairs, concluded his visit to China and confirmed that he discussed increasing the quota on the number of satellite launches from China.
- 3/29/98 A Hong Kong newspaper owned by the PRC government reported that China Aerospace Corporation found in its investigations into past failed launches of satellites that all the failures were caused by problems in production and management related to quality control. A previous explosion of an LM-3B rocket (on 2/15/96) was found to have been caused by a defect in a power pack nodal point which caused a short circuit when the rocket ignited, resulting in a malfunction in the inertial platform.
- 4/3/98 China’s official news agency quoted Zhang Haiming, general-manager of a division of Lockheed Martin, as saying that the company is “consulting with the PRC on satellite manufacturing.”
- 4/4/98 The *New York Times* reported that a Federal grand jury is investigating whether Loral Space and Communications of New York and Hughes Electronics of Los Angeles provided expertise to China

that "significantly advanced" the guidance systems of its ballistic missiles in studying the accidental destruction in February 1996 of a satellite built by Loral. Administration officials reportedly said that the Department of Justice, fearing that its criminal investigation would be undermined, opposed the President's February 1998 waiver and approval for export of similar technology to China (for Chinasat-8). Loral's chief executive was reported as the largest personal donor to the Democratic National Committee for the 1996 election.

- 4/9/98 John Holum, Acting Undersecretary of State for Arms Control and International Security Affairs, stressed that exports of satellites to China for launch occur with an export license and strict security measures to "preclude assistance to the design, development, operation, maintenance, modification or repair of any launch facility or rocket in China, and we monitor that very carefully." He also confirmed that after the accident in February 1996, the Department of State "became aware that there may have been a violation." The case was referred to the Department of Justice for investigation. He said that there are "strong legal remedies" for violations of export control laws, including a denial of future licenses.
- 4/13/98 The *New York Times* again reported on the criminal investigation of Loral and Hughes, adding that a highly classified Pentagon report concluded in May 1997 that the companies had transferred expertise to China that "significantly improved" the reliability of China's nuclear ballistic missiles.
- 4/15/98 Loral's president and chief operating officer, Gregory Clark, stated that Loral "did not divulge any information that was inappropriate."
- 4/16/98 A PRC Foreign Ministry spokesman stated that "the exchange of technical information about satellite launchings between U.S. companies and the PRC aerospace department was a normal activity and fell under international rules." He also said that the companies "did not provide technical information about missile technology."
- 4/21/98 Loral's chairman and CEO, Bernard Schwartz, said that "we have done our own internal investigation, and I'm satisfied that our people acted well — good behavior and in compliance [with U.S. export control regulations]."
- 4/28/98 Under Secretary of Commerce for Export Administration William Reinsch testified to the Joint Economic Committee that satellite exports to China have shown how effective dual-use export controls allow U.S. exporters to compete and "win without risk to our national security." He said that controls on satellite exports to China are extensive and include measures to "reduce the risk" of illicit technology transfers. Since November 1996 (when the licensing jurisdiction was transferred from the Department of State to

Commerce), Commerce issued three export licenses for satellites to be launched from China — “with the concurrence of all agencies.”

- 4/30/98 A spokesman at the State Department, James Foley, denied a *Washington Times* report that the Administration presented China with a draft agreement for space cooperation. He admitted, however, that officials have considered scientific space cooperation as one way to encourage PRC cooperation in missile non-proliferation. He also stressed that “there still is not any U.S. plan or proposal to offer China access to missile technology.”
- 5/2/98 A PRC Long March 2C/SD rocket launched two Iridium satellites (built by Motorola) to low earth orbit.
- May 1998 The Justice Department began a preliminary inquiry into whether political donations influenced President Clinton’s approval of satellites to China.
- 5/15/98 The *New York Times* reports that fund-raiser Johnny Chung told the Justice Department that part of his donations to the Democratic Party in the summer of 1996 came from the PLA through Liu Chaoying, a PLA lieutenant colonel and a senior manager and vice president for China Aerospace International Holdings, Ltd. (a subsidiary of China Aerospace Corporation in Hong Kong). She is also a daughter of retired General Liu Huaqing, formerly a vice chairman of the PLA’s command, the Central Military Commission, and formerly a member of the Standing Committee of the Politburo.
- 5/18/98 Loral issued a statement saying that allegations that it provided missile guidance technology to China are false. The company states that “the Chinese alone conducted an independent investigation of the launch failure [in February 1996] and they determined that the problem was a defective solder joint in the wiring — a ‘low-tech’ matter.” Loral denied that it and Hughes conducted an independent investigation to determine the cause of that launch failure. It was at the insistence of insurance companies, which required non-PRC confirmation of resolutions of problems with Long March rockets, that Loral formed a committee of several satellite companies, including Hughes, to review the PRC investigation. However, Loral admitted that, contrary to its policies, “the committee provided a report to the Chinese before consulting with State Department export licensing authorities.” Loral adds that it is in full cooperation with the Justice Department in its investigation and with Congressional committees. Loral concludes that based upon its own review, it “does not believe that any of its employees dealing with China acted illegally or damaged U.S. national security.” In addition, the statement says that Loral’s chairman, Bernard Schwartz, was not personally involved in any aspect of this matter. “No political favors or benefits of any kind were requested or extended, directly or indirectly, by any means whatever.” Loral also denies any connection between the launch failure in February 1996

and the Presidential waiver for another Loral-built satellite in February 1998. The export license for the latest launch (for Chinasat-8) "applied the strictest prohibitions on technology transfer and specified that any new launch failure investigation would require a separate license." Loral stresses that it complies strictly with export control laws and regulations.

- 5/30/98 China launched its Chinastar-1 (Zhongwei-1) (built by Lockheed Martin) on a LM-3B rocket.
- June 1998 The Justice Department expanded its investigation to examine whether Hughes violated export control laws in transmitting a report to China on the failure on January 26, 1995 that destroyed the Apstar-2 satellite. The Commerce Department had approved Hughes' report.
- 6/18/98 The House voted on H.Res. 463 to create the Select Committee on U.S. National Security and Military/Commercial Concerns with the People's Republic of China (chaired by Rep. Cox). Popularly known as the "Cox Committee," it was comprised of five Republicans and four Democrats.
- 6/29/98 President Clinton held a summit in Beijing with President Jiang Zemin, at which the PRC refused to join the MTCR but said it was "actively studying" whether to join.
- 7/2/98 The State Department suspended the license issued in 1996 to Hughes that permitted Shen Jun, son of a PLA lieutenant general, to work on a \$450 million satellite deal for the APMT consortium.
- 7/7/98 A DTSA official, Michael Maloof, wrote a memo about his concerns that the PRC military has used U.S.-made satellites to improve its encrypted command, control, communications, and intelligence (C⁴I), using the Asiasat and Apstar satellites built by Hughes.
- 7/18/98 China launched its Sinosat-1 (built by French companies, Alcatel and Aerospatiale) on a LM-3B rocket.
- 8/19/98 A PRC Long March 2C/SD rocket launched two replenishment satellites for Iridium (owned by Motorola).
- Summer An internal memo of the Justice Department's campaign finance task force reportedly found no evidence that Loral's chairman Bernard Schwartz corruptly influenced President Clinton in his decision to approve Loral's export of a satellite to China in 1998, but the memo recommended to Attorney General Janet Reno that she appoint an independent prosecutor. Reno denied the recommendation.
- 9/17/98 Conferees on the National Defense Authorization Act for FY1999 (H.R. 3616) agreed to transfer the export licensing authority over

commercial satellites back to the State Department, among other provisions, but did not ban further satellite exports to China.

- Sept. 1998 A CIA analyst, Ronald Pandolfi, briefed the Senate Intelligence Committee on what he had found in 1995 about Hughes' review of the explosion of a Long March rocket in January 1995. The CIA then allegedly alerted Hughes about Pandolfi's briefing, reportedly according to an internal CIA cable dated September 23, 1998. The committee then asked Attorney General Janet Reno for a criminal investigation into whether the CIA improperly obstructed a Senate investigation.
- 10/17/98 President Clinton signed the National Defense Authorization Act for FY1999 (P.L. 105-261), but said he "strongly opposed" the provisions on shifting controls over satellite exports back to the Department of State.
- 11/16/98 China Great Wall Industry Corp. failed to receive bids and information from any U.S. satellite manufacturers for a PRC proposal to set up a joint satellite production facility, in part because of Congressional concerns over sensitive technology transfers (*Space News*, November 23-29, 1998).
- 11/20/98 The Department of Commerce notified Congress, as required in FY1999 appropriations legislation (P.L. 105-277), that it is processing two applications for licenses to export satellites to China.
- Dec. 1998 CIA officials agreed to testify before a federal grand jury in Washington in the Justice Department's unusual criminal investigation into whether the CIA obstructed justice when it allegedly warned Hughes about the Senate Intelligence Committee's interest in some of its employees. The investigation began at the request of that committee (*Washington Post*, December 5, 1998).
- 12/7/98 *Aviation Week & Space Technology* reports that the Department of Commerce granted permission for the launch of the APMT satellite to proceed.
- 12/7/98 DOD issued an initial assessment of documents provided by the Department of Commerce in July 1998 on Hughes' review the January 1995 launch failure (for Apstar-2). The report prepared by DTSA and NAIC concluded that Hughes provided information to China that potentially helped its missile program and violated standards of not improving PRC satellite and missile capabilities.
- Dec. 1998 The Departments of Defense and State began a study after the December 7, 1998 Pentagon report on Hughes' technical exchanges with China in 1995. The follow-up study will assess any military benefit to China of the technical exchanges.

- 12/9/98 The chairmen of six House and Senate Committees (National Security, Armed Services, International Relations, Foreign Relations, and Intelligence) wrote a letter to President Clinton, warning against "direct contravention" of legislation passed by Congress to have the State Department regain control over the export of satellites.
- 12/15/98 The *New York Times* reports that the Department of Justice's investigation of China's role in the political campaigns of 1996 has found new evidence that the PRC goal was acquisition of U.S. high technology, especially that with military uses.
- 12/13/98 The State Department's Office of Defense Trade Controls (DTC) completed a sensitive but unclassified report, concluding that Hughes, in reviewing the January 1995 launch failure of Apstar-2, provided technical lessons that are "inherently applicable" to PRC missile as well as satellite launch programs. (Printed in the Cox Committee's report, volume II, p. 76-84)
- 12/19/98 A PRC Long March 2C/SD rocket launched two replenishment satellites for Iridium (owned by Motorola).
- 12/30/98 The "Cox Committee" unanimously approved a classified report on its six-month investigation. According to Rep. Cox and Dicks, the chair and ranking Democrat, PRC technology acquisitions, not only those associated with satellite launches, harmed U.S. national security.
- 1999**
- 1/6/99 The House extended the "Cox Committee" for three months in the 106th Congress to work on the declassification of its report.
- 1/14/99 Under Secretary of Commerce William Reinsch said in a speech that the Cox Committee is a good example of those in Congress who "do not understand" the "political and economic transformations" in recent years and "respond to them by trying to return to the simpler era of the Cold War and a single bipolar adversary. Only this time, it is China."
- 1/21/99 The Secretary of State submitted her plan to Congress on regaining licensing authority over satellites on March 15, 1999, as required in section 1513(d) of the National Defense Authorization Act for FY1999.
- 2/1/99 The NSC issued a 32-page, unclassified response to the "Cox Committee's" recommendations, before release of its declassified report.
- 2/1/99 As required in FY1999 appropriations legislation (P.L. 105-277), Commerce again notified Congress (after the Nov. 20, 1998 notice) that it is processing three additional applications to export satellites to

China. The total of five satellite projects under consideration were: Chinasat-8R, APMT, Asiasat-3sb/4, Command and Control Software for Satellites, and Iridium.

- 2/1/99 The Defense Secretary reported that China's military and civilian leaders are paying "specific attention" to the C⁴I infrastructure and that "the military's lack of communications satellites could force the PLA to rely on foreign satellite services to meet military needs in wartime or a crisis."
- 2/23/99 The Clinton Administration announced that it decided to deny approval to Hughes for the export of the APMT satellite, after the Departments of Defense and State voted against the Commerce Department's support for the export. The administration cited concerns that the end-user of the satellite would be the PLA.
- 3/15/99 The Department of State regained authority over the licensing of satellite exports, pursuant to the National Defense Authorization Act for FY1999 (P.L. 105-261).
- 3/15/99 Hughes responded to the Administration's decision to deny an export license for the APMT satellite by asking for a detailed justification.
- 3/18/99 The Department of Commerce published a rule in the *Federal Register* on removing commercial communication satellites and related items from the Commerce Control List.
- 3/22/99 The Department of State published a rule in the *Federal Register* on reinstating commercial communication satellites on the Munitions List on March 15, 1999.
- 3/24/99 The House passed H.Res. 129 (Cox) to extend the "Cox Committee" until April 30, 1999.
- 4/4/99 The *Los Angeles Times* reports that Democratic fund-raiser Johnny Chung told federal investigators that Liu Chaoying, executive of China Aerospace International Holdings, Ltd., helped to funnel \$300,000 from General Ji Shengde, head of the PLA's intelligence department, to Chung for President Clinton's re-election campaign in 1996, but most of that money did not go to the Democratic Party.
- 4/14/99 Hughes reported that the APMT consortium dropped Hughes as the satellite supplier, after it failed to obtain the export licenses.
- 4/21/99 The Director of Central Intelligence publicly reported on the Intelligence Community's damage assessment on PRC acquisitions of information on U.S. nuclear weapons and ballistic missiles.

- 4/22/99 Representatives Cox and Dicks briefed President Clinton on the findings of the "Cox Committee's" report.
- 4/29/99 The House agreed to H. Res. 153 (Cox) to extend the "Cox Committee" until May 14, 1999.
- 5/7/99 The Senate Select Committee on Intelligence released its report on security implications of U.S. satellite exports to China and on PRC political donations to U.S. political campaigns. The committee had approved the report on May 5, 1999, in a 16-1 vote, with Senate Graham dissenting. There are 10 recommendations related to the policy of satellite exports to China.
- 5/10/99 As required by section 1512 of the FY1999 National Defense Authorization Act (P.L. 105-261), President Clinton issued certifications (for the Iridium satellite project) that the export of satellite fuels and separation systems is not detrimental to the U.S. space launch industry and that the material and equipment, including any indirect technical benefit that could be derived from such export, will not measurably improve PRC missile or space launch capabilities.
- 5/10/99 China launched two PRC satellites (Fengyun-1 weather satellite and Shijian-5 unspecified scientific satellite) using a LM-4B rocket for the first time.
- 5/13/99 The House approved H. Res. 170, on May 13, 1999, to extend the "Cox Committee" until May 31, 1999.
- 5/25/99 The "Cox Committee" released the declassified version of its January 3, 1999 report on its investigation of PRC technology acquisitions.
- 6/11/99 A LM-2C rocket launched two Iridium satellites (owned by Motorola).
- 10/5/99 The President signed into law (P.L. 106-65) the FY2000 National Defense Authorization Act in which Congress addressed export controls relating to missile technology, satellites, and other issues.
- 10/14/99 A LM-4B rocket launched the China-Brazil Earth Resources Satellite (CBERS-1), or Zi Yuan-1.
- 11/20/99 A Long March 2F rocket launched the Shenzhou spacecraft in the PRC's first successful unmanned flight test of a manned spacecraft.
- 12/15/99 Four experts at Stanford University's Center for International Security and Cooperation issued a critique of the "Cox Committee's" report. Alastair Iain Johnston, W. K. H. Panofsky, Marco Di Capua, and Lewis R. Franklin, edited by M. M. May, "The Cox Committee Report: An Assessment," December 1999.

2000

- 1/25/00 A Long March 3A rocket launched a PRC Zhongxing-22 (Chinasat-22) communications satellite. (The *Washington Times* reported that it is also called Feng Huo-1, the first of China's military communications satellites for a new battle management system.)
- 3/16/00 U.S. Ambassador to the PRC Joseph Prueher hosted a dinner in Beijing for representatives of Loral, Lockheed Martin, Hughes, CASC, and ChinaSat.
- 4/4/00 The Department of State charged Lockheed Martin Corporation with violating the Arms Export and Control Act by assessing a PRC kick motor for the Asiasat-2 satellite.
- 6/14/00 The Department of State announced a settlement with Lockheed Martin, involving \$13 million in total penalties.
- 6/25/00 A Long March 3 rocket launched the PRC's Fengyun 2 weather satellite.
- 7/17/00 The Defense Security Service issued an award for security performance to Loral but then rescinded it.
- 9/1/00 A Long March 4B rocket launched the PRC's China Resources-2 (Zhongguo Ziyuan-2) remote sensing satellite to collect imagery.
- Sept. 2000 According to Senator Shelby, the Justice Department decided not to charge an unnamed CIA official with obstructing a Senate investigation. (The Senate Intelligence Committee had found out about the CIA's contact with Hughes in September 1998 and then asked Attorney General Janet Reno for a criminal investigation.)
- 10/30/00 President Clinton signed the NASA Authorization Act for FYs 2000, 2001, and 2002 (P.L. 106-391) that includes a requirement for certification to Congress, at least 15 days before a U.S.-PRC cooperative agreement, that it is not detrimental to the U.S. space launch industry and will not improve the PRC's ballistic missile or space launch capabilities (Section 126(a)(2)).
- 10/31/00 A Long March 3A rocket launched the PRC's Beidou navigation satellite, the first for a planned system to provide all-weather, round-the-clock navigational information for use on land and at sea.

CRS Report for Congress

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China: Suspected Acquisition of U.S. Nuclear Weapon Data

Updated September 14, 2000

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China: Suspected Acquisition of U.S. Nuclear Weapon Data

Summary

This CRS Report discusses China's suspected acquisition of U.S. nuclear weapon secrets, including that on the W88, the newest U.S. nuclear warhead, since the late 1970s. The press first reported on the W88 case in January 1999. This report discusses background information, major actions of the Clinton Administration and Congress, and public damage assessments as well as policy implications.

The Clinton Administration acknowledged that improved security was needed at the weapon labs but says that it has taken actions in response to indications in 1995 that China may have obtained U.S. nuclear weapon secrets. Critics in Congress and elsewhere argued that the Administration was slow to respond to security concerns, mishandled the too narrow investigation, downplayed information potentially unfavorable to China and the labs, and failed to notify Congress fully, among other points. Others urged policymakers to move beyond partisan debates to upgrade U.S. security at the labs, assess potential damage, and take necessary corrective action.

On April 7, 1999, President Clinton assessed the situation, saying that partly "because of our engagement, China has, at best, only marginally increased its deployed nuclear threat in the last 15 years" and that the strategic balance with China "remains overwhelmingly in our favor." On April 21, 1999, Director of Central Intelligence (DCI) George Tenet, reported the Intelligence Community's damage assessment (reviewed by an independent panel led by Admiral Jeremiah) to Congress and the White House. The assessment confirmed that "China obtained by espionage classified U.S. nuclear weapons information that probably accelerated its program to develop future nuclear weapons." It also revealed that China obtained information on "several" U.S. nuclear reentry vehicles, including the Trident II submarine-launched missile that delivers the W88 nuclear warhead as well as "a variety of" design concepts and weaponization features, including those of the neutron bomb.

On May 25, 1999, the Cox Committee raised serious questions about nuclear weapon security by reporting that China has "stolen" classified information on the W88 and six other U.S. nuclear warheads. On June 15, 1999, the President's Foreign Intelligence Advisory Board (PFIAB), chaired by former Senator Rudman, reported that the Department of Energy is a "dysfunctional bureaucracy" and urged that a semi-autonomous or independent agency be created to oversee nuclear weapons. In September 1999, Congress passed the FY2000 Defense Authorization Act to create a National Nuclear Security Administration (NNSA) within DOE on March 1, 2000.

In April 1999, the FBI expanded its investigation on the PRC (originally called "Kindred Spirit" and now called "Fall-out"), beyond the Los Alamos lab and its former scientist, Wen Ho Lee. The FBI also pursued Lee's case, which was a result of, but unrelated to, the probe of PRC espionage. In December 1999, the Justice Department indicted Lee for mishandling nuclear weapons information, but not for passing secrets to any foreign government(s). Lee was kept in jail in solitary. In a dramatic conclusion, the prosecution and Lee reached a plea agreement on September 13, 2000, when Lee pleaded guilty to one felony count of mishandling nuclear information and was freed (with time served) by the judge, who apologized.

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China: Suspected Acquisition of U.S. Nuclear Weapon Data

Background

Congressional Concern

In early 1999, serious congressional concerns about security over nuclear weapon data at the U.S. nuclear weapon laboratories (Lawrence Livermore, Los Alamos, and Sandia) were heightened after public reports said that the People's Republic of China (PRC) may have acquired the design of the W88 nuclear warhead in the 1980s. This is the third reported case involving the PRC's suspected compromise of U.S. nuclear weapon secrets. It raises issues about whether U.S. data helped China to develop smaller nuclear warheads and the effectiveness of the Administration's response to the confirmed security problems that may have persisted to the present.

In April 1999, President Clinton stated that the PRC has fewer than two dozen long-range nuclear weapons, compared to 6,000 in the U.S. arsenal. Nevertheless, some are concerned that China is developing a new DF-31 solid-fuel, mobile intercontinental ballistic missile (ICBM), with a range of about 5,000 miles, for deployment perhaps after 2000, reportedly with a smaller warhead (700 kg; 1,500 lb.) than the current DF-5A ICBMs. In addition, there are reportedly programs to develop a next-generation JL-2 submarine-launched ballistic missile (SLBM) and a longer-range DF-41 ICBM.¹

Reported Cases of Security Compromises

Concerns about PRC attempts to acquire secrets from U.S. nuclear weapon labs are longstanding, including congressional concerns discussed below. A 1994 book on PRC intelligence cited the head of counterintelligence at the Federal Bureau of Intelligence (FBI) in Los Angeles as saying that the PRC had tried to recruit people at Los Alamos and Lawrence Livermore.² In the three public cases that occurred in the late 1970s to 1980s, China may have conducted clandestine operations at the labs or benefitted from voluntary disclosures or lapses in security. In these cases, the reported suspects were U.S. scientists working at the labs who were born in Taiwan. A fourth case, reported by the media in April 1999, suggests that China sought more

¹ See CRS Report 97-391, *China: Ballistic and Cruise Missiles*, by Shirley A. Kan; and CRS Report 97-1022, *Chinese Nuclear Testing and Warhead Development*, by Jonathan Medalia.

² Eftimiades, Nicholas. *Chinese Intelligence Operations* (Annapolis: Naval Institute Press, 1994), p. 6.

neutron bomb data in 1995. However, it is uncertain whether this reported incident involves any of the Department of Energy (DOE) labs.

In the first case, the press reported in 1990 that China had stolen data on the neutron bomb from Lawrence Livermore sometime in the late 1970s to 1980s, and the FBI began an investigation on this case perhaps in 1986. As of 1999, this investigation reportedly remained open. The PRC allegedly used U.S. data on the W70 warhead to make an experimental neutron bomb that was tested in 1988 and also passed the information to Pakistan. The suspected informant resigned after being investigated for two years, but, because of insufficient evidence, no one has been charged.³ (Also see discussion on the fourth case below.)

The second case came to light when a U.S. scientist, Peter H. Lee, admitted on December 8, 1997, in a plea bargain that, during a trip to China in January 1985, he gave PRC nuclear scientists classified information about his work at Los Alamos on using lasers to simulate thermonuclear explosions and problems in U.S. simulations of nuclear weapon testing. He also admitted failure to disclose his lectures in China in May 1997 on his work on sensitive satellite radar imaging to track submarines at TRW, Inc. (developed at Lawrence Livermore lab). Lee disclosed the information on anti-submarine warfare at the Institute of Applied Physics and Computational Mathematics (IAPCM), a PRC nuclear weapon facility. Lee was not charged with espionage, in part because the information on the laser device was declassified by Energy Secretary Hazel O'Leary in 1993 and the Navy did not want open discussion of the sensitive radar technology. Lee's attorney, James Henderson, said that Lee is not a spy but made mistakes. He reportedly explained that he was trying to help PRC scientists and boost his own reputation in China. After a seven-year investigation by the FBI that began in 1990 (code-named "Royal Tourist"), Lee was sentenced in March 1998 to one year at a halfway house. This case was briefed to National Security Advisor Sandy Berger by DOE intelligence officials in July 1997 and included in a classified counterintelligence report completed in November 1998 that was sent to the White House.⁴ At hearings in 2000, Senator Specter criticized the prosecution of this case. (See Investigations below.)

The third case is the subject of the current and most serious controversy about leaks of nuclear weapon secrets to China. The case became public as a result of a comprehensive investigation into technology transfers to China conducted in 1998 by the bipartisan House Select Committee on U.S. National Security and Military/Commercial Concerns with China (popularly known as the "Cox

³ *San Jose Mercury-News* and *New York Times*, November 22, 1990; *Wall Street Journal*, January 7, 1999; *Washington Post*, February 17, 1999; CRS Report 96-767, *Chinese Proliferation of Weapons of Mass Destruction: Background and Analysis*, September 13, 1996, by Shirley A. Kan.

⁴ *Reuters*, December 9, 1997 and March 26, 1998; *Washington Post*, December 12, 1997; testimony of FBI Director Louis Freeh before the House Appropriations Subcommittee on Commerce, Justice, State, and Judiciary, March 17, 1999; Walter Pineus and Vernon Loeb, "For Chinese Scientists, a Subtle System of Espionage," *Washington Post*, May 9, 1999; Jeff Gerth and James Risen, "Reports Show Scientist Gave U.S. Radar Secrets to Chinese," *New York Times*, May 10, 1999.

Committee"). The press first reported in January 1999 that U.S. intelligence discovered in 1995 that secrets about the W88, the most advanced miniature nuclear warhead (deployed on the Trident II SLBM), may have leaked from Los Alamos to China between 1984 and 1988. U.S. intelligence reportedly had obtained a secret PRC document from 1988 containing designs similar to that of the W88. The discovery prompted an FBI investigation (code-named "Kindred Spirit") that began in September 1995.⁵ Apparently considering "Kindred Spirit" to have been too narrowly focused on one suspect, the FBI, in April 1999, reportedly expanded the investigation (code-named "Fall-out"). Separately, the investigation resulted in the criminal investigation and indictment of Los Alamos scientist Wen Ho Lee in 1999.

Suspicious that China may have W88 data also led analysts to reexamine a series of nuclear explosions detonated by China prior to its announcement of a moratorium on nuclear testing (in July 1996) and new willingness to sign the Comprehensive Test Ban Treaty (CTBT) (in September 1996). After China became the last of the five nuclear weapon states to begin a moratorium, there were some suspicions that China took the step, not just because of arms control, but because it had reached its goals in nuclear weapon modernization or achieved the capability to simulate nuclear explosions. Some speculated that China received test data from Russia or France.⁶

In a fourth case that was reported by the media in April 1999, there are allegations that PRC espionage directed at U.S. nuclear weapon designs continued into the 1990s. U.S. intelligence reportedly learned in early 1996 from one of its spies that China sought in 1995 to acquire more U.S. information on the neutron bomb design that it obtained sometime in the late 1970s to 1980s from Livermore. Some speculate that China may have been seeking more data, because its 1988 test of a neutron bomb was not successful. Intelligence concerns reportedly led to: a criminal investigation by the FBI and a report from the FBI to DOE on March 27, 1996; a briefing in April 1996 for Sandy Berger (then Deputy National Security Advisor) on concerns about PRC acquisition of neutron bomb and W88 data; and an analysis of the neutron bomb case completed at DOE in July 1996 (that raised the possible involvement of Wen Ho Lee, the suspect in the W88 case). However, the U.S. government reportedly has no evidence that China has been able to improve its neutron bomb nor that any of the nuclear weapon labs was involved in this case.⁷

⁵ Gerth, James and Eric Schmitt, "Bipartisan Report Finds Theft of Nuclear Technology That Hurt National Security," *New York Times*, December 31, 1998; Carla Anne Robbins, "China Got Secret Data On U.S. Warhead," *Wall Street Journal*, January 7, 1999; Walter Pincus, "U.S. Cracking Down On Chinese Designs On Nuclear Data" and "Spy Suspect Fired At Los Alamos Lab," *Washington Post*, February 17 and March 9, 1999; James Risen and Jeff Gerth, "China Stole Nuclear Secrets From Los Alamos, U.S. Officials Say," *New York Times*, March 6, 1999; testimony of FBI Director Louis Freeh before the House Appropriations Subcommittee on Commerce, Justice, State, and Judiciary, March 17, 1999.

⁶ Lim, Benjamin Kang, "China Nuclear Halt May Stem From Deal," *Reuters*, July 30, 1996; Robert Karniol, "Nuclear Blast Heralds A Chinese Moratorium," *June's Defense Weekly*, August 7, 1996.

⁷ Gerth, Jeff and James Risen, "Intelligence Report Points to Second China Nuclear Leak," *New York Times*, April 8, 1999.

Congressional Action

Congress has voiced long-standing concerns about security at the nuclear weapon labs. Some attention focused on the foreign visitor program, which was reportedly not the primary concern in the public cases involving alleged leaks by U.S. scientists to China. In 1988, Senator John Glenn, chairman of the Senate Governmental Affairs Committee, held a hearing, and the General Accounting Office (GAO) presented a report on the extent to which foreign nationals work at the nuclear weapon labs and the effectiveness of security checks there. Senator Glenn also said that back in October 1979, his committee began to examine access by foreign visitors to mistakenly declassified documents at the public library at the Los Alamos lab.⁸

More recently, the House National Security Committee requested in May 1996 that the GAO again study controls over foreign visitors at the labs.⁹ In October 1998, Congressman Hunter held a hearing on DOE's foreign visitor program.¹⁰

The National Defense Authorization Act for FY 1997 (P.L. 104-201) prohibited DOE from using funds for cooperative activities with China related to nuclear weapons or nuclear weapons technology, including stockpile stewardship, safety, and use control. (Stockpile stewardship relates to the evaluation of nuclear weapons without testing.) The National Defense Authorization Act for FY 1998 (P.L. 105-85) banned the DOE's use of funds for activities with China in cooperative stockpile stewardship, and similar legislation for FY 1999 (P.L. 105-261) made the ban permanent.

Investigations

Prompted by reports that missile technology was transferred to China in connection with satellite exports, the Senate Intelligence Committee, in 1998, carried out an investigation and issued its unclassified report on May 7, 1999.¹¹ On March 25, 1999, Senator Shelby, the committee's chair, announced that it voted unanimously to begin an investigation into whether China obtained U.S. nuclear weapon secrets and how the Administration dealt with espionage at the labs.¹² On January 27, 2000, the committee's staff director, Nicholas Rostow, said that the

⁸ Senate Governmental Affairs Committee hearing, "Security Weaknesses at the Nuclear Weapons Laboratories," October 11, 1988; *Nuclear Nonproliferation: Major Weaknesses in Foreign Visitor Controls at Weapons Laboratories* (GAO/RCED-89-31), October 1988.

⁹ GAO/RCED-97-229, *DOE Needs To Improve Controls Over Foreign Visitors to Weapons Laboratories*, September 1997.

¹⁰ Hearing of the House National Security Subcommittee on Military Procurement, "Department of Energy's Foreign Visitor Program," October 6, 1998.

¹¹ Senate Select Committee on Intelligence, "Report On Impacts To U.S. National Security Of Advanced Satellite Technology Exports to the People's Republic of China (PRC), and Report on the PRC's Efforts to Influence U.S. Policy," May 1999.

¹² "Senate Intelligence Committee Votes Unanimously to Begin Formal Investigation into Chinese Espionage at Nuclear Research Labs," news release, March 25, 1999.

committee will independently confirm that the DOE has improved security at the labs.¹³

In the House, the Cox Committee, in the last half of 1998, examined broader technology transfers to China, including possible leaks of missile and nuclear weapon-related know-how. The bipartisan committee unanimously approved a classified report, with 38 recommendations, on December 30, 1998 and, after working with the Clinton Administration, issued a declassified version on May 25, 1999. (See section on Damage Assessment below.)

The Senate Governmental Affairs Committee conducted 13 hours of closed hearings to review the investigatory steps of the Departments of Energy and Justice, and the FBI. It issued a bipartisan report on August 5, 1999, under the names of both Chairman Fred Thompson and Ranking Minority Member Joseph Lieberman. The committee did not take a position on whether the W88 or other nuclear weapons were compromised, but concluded that the federal government's handling of the investigation since 1995 consisted of "investigatory missteps, institutional and personal miscommunications, and ... legal and policy misunderstandings and mistakes at all levels of government." The Senators said that "the DOE, FBI, and DOJ must all share the blame for our government's poor performance in handling this matter."¹⁴

On October 26, 1999, Senator Specter, under the jurisdiction of the Senate Judiciary Subcommittee on Administrative Oversight and the Courts, held the first hearing in his investigation into the Justice Department's handling of the PRC nuclear espionage investigation, satellite exports, campaign finance, Waco, and other issues. (See also Hearings below.) Senator Specter criticized the Department's prosecution of Peter H. Lee in 1997, which resulted in a plea bargain. Defenders have argued that the information involved has been declassified, and the defendant is not a spy and did not pass nuclear weapon secrets.¹⁵ On March 8, 2000, Senator Specter issued a report critical of the investigation of Wen Ho Lee.¹⁶

¹³ "Senate Panel Wants Independent Energy Dept. Security Check," *CQ Weekly*, January 29, 2000.

¹⁴ Senate Governmental Affairs Committee, "Department of Energy, FBI, and Department of Justice Handling of the Espionage Investigation into the Compromise of Design Information on the W88 Warhead," August 5, 1999; Walter Pincus, "China Spy Probe Bungled, Panel Finds," *Washington Post*, August 6, 1999.

¹⁵ Vernon Loeb, "Justice Accused of Laxity in Spy Case," *Washington Post*, October 27, 1999; "Questions About Another Chinese Spy Case," *Washington Post*, April 4, 2000; Bill Gertz, "Specter Berates Justice's Spy Case Handling," *Washington Times*, April 6, 2000; John Solomon, "U.S. Gave Spy A Plea Bargain Prior to Damage Report," *Philadelphia Inquirer*, May 21, 2000.

¹⁶ Senator Arlen Specter, "Report on the Investigation of Espionage Allegations Against Dr. Wen Ho Lee," March 8, 2000.

Hearings

Congressional open and closed hearings in the 106th Congress on the question of suspected PRC acquisition of U.S. nuclear weapon secrets, first reported by news media in January 1999, included these held by the following panels:

Senate Armed Services, and Energy and Natural Resources, March 16, 1999;
 House Appropriations Subcom. on Commerce, Justice, State, and Judiciary, March 17, 1999;
 Senate Select Intelligence, March 17, 1999;
 Senate Armed Services, March 25, 1999;
 Senate Armed Services, April 12, 1999;
 Senate Energy and Natural Resources (closed), April 14, 1999;
 House Armed Services Subcom. on Military Procurement, April 15, 1999;
 House Commerce Subcom. on Oversight and Investigations, April 20, 1999;
 Senate Energy and Natural Resources, April 28, 1999;
 Senate Intelligence (closed), April 29, 1999;
 Senate Energy and Natural Resources, May 5, 1999;
 Senate Judiciary, May 5, 1999;
 House Commerce, May 5, 1999;
 Senate Energy and Natural Resources, May 12, 1999;
 Senate Intelligence (closed), May 12, 1999;
 Senate Intelligence (closed), May 19, 1999;
 Senate Energy and Natural Resources, May 20, 1999;
 Senate Energy (closed), May 20, 1999;
 Senate Government Affairs (closed), May 20, 1999;
 House Science, May 20, 1999;
 House International Relations Subcom. on Asia and Pacific, May 26, 1999;
 Senate Governmental Affairs Subcom. on International Security, Proliferation, and Federal Services, May 26, 1999;
 House Intelligence (closed), June 8, 1999;
 Senate Judiciary (closed), June 8, 1999;¹⁷
 Senate Governmental Affairs (closed), June 9, 1999;
 Senate Intelligence, June 9, 1999;
 Senate Governmental Affairs, June 10, 1999;
 Senate Banking, Housing, and Urban Affairs, June 10, 1999;
 Senate Armed Services, Energy, Governmental Affairs, and Intelligence, June 22, 1999;
 House Commerce, June 22, 1999;
 Senate Armed Services, June 23, 1999;
 House Armed Services, June 24, 1999;
 House Government Reform, June 24, 1999;
 House Science, June 29, 1999;
 Senate Intelligence (closed), June 30, 1999;
 House Commerce, July 13, 1999;
 House Armed Services, July 14, 1999;

¹⁷ On December 21, 1999, the Senate Judiciary Committee released an unclassified transcript of its closed hearing with Attorney General Janet Reno on June 8, 1999.

Senate Energy and Natural Resources, July 16, 1999;
 House Commerce, July 20, 1999;
 Congressional Asian Pacific American Caucus (briefing), on October 5, 1999;
 Senate Governmental Affairs and Energy, October 19, 1999;
 House Armed Services Subcom. on Military Procurement, October 20, 1999;
 Senate Judiciary Subcom. on Administrative Oversight and the Courts, October 26,
 1999;
 House Commerce Subcom. on Oversight and Investigations, October 26, 1999;
 House Armed Services Subcom. on Military Procurement, November 10, 1999;
 Senate Judiciary Subcom. on Administrative Oversight and the Courts (closed),
 December 16, 1999;
 Senate Judiciary Subcom. on Administrative Oversight and the Courts, March 29,
 2000;
 Senate Judiciary Subcom. on Administrative Oversight and the Courts, April 5, 2000;
 Senate Judiciary Subcom. on Administrative Oversight and the Courts, April 12,
 2000.

Major Legislation

Moratorium on Foreign Visits. Some Members expressed concerns about foreign visitors to the national labs, but the Administration has said that foreign visitors have not compromised U.S. nuclear weapon secrets. Representative Ryun introduced H.R. 1348 on March 25, 1999, to prohibit foreign nationals who are on the DOE's Sensitive Countries List¹⁸ from visiting the nuclear weapon labs, unless the Secretary of Energy notifies Congress ten days before waiving the prohibition. Senator Shelby introduced similar legislation (S. 887) on April 27, 1999.

On May 27, 1999, the Senate agreed by voice vote to Senator Lott's amendment to the National Defense Authorization Act for FY 2000 (S. 1059). The amendment sought to improve the monitoring of satellite exports and strengthen safeguards, security, and counterintelligence at DOE facilities.¹⁹ On June 9, 1999, Representative Cox introduced an amendment²⁰ to the House's version (H.R. 1401). The amendment consisted of 27 sections, with 25 sections requiring reports or other actions, or amending the law; a section simply providing a short title; and a section providing a definition of "national laboratory." The sections or subsections of the Cox amendment addressed fully or partially 21 of the 38 recommendations of the Cox Committee. The House agreed to the Cox amendment by 428-0 on that day and passed H.R. 1401 on June 10, 1999. Meanwhile, Representative Ryun's amendment (to impose a two-year moratorium on foreign visitors from sensitive countries to the national labs) failed by 159-266 on June 9, 1999. Section 3146 of the FY 2000

¹⁸ DOE, "Sensitive Countries List," May 1999. Because of reasons of national security, terrorism, or nuclear proliferation, the following are included: Algeria, Armenia, Azerbaijan, Belarus, PRC, Cuba, Georgia, India, Iran, Iraq, Israel, Kazakhstan, Kyrgyzstan, Libya, Moldova, North Korea, Pakistan, Russia, Sudan, Syria, Taiwan, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

¹⁹ For language of amendment, see *Congressional Record*, May 26, 1999, p. S6073-6074.

²⁰ *Congressional Record*, June 8, 1999, p. H3862-3866.

National Defense Authorization Act (P.L. 106-65), enacted on October 5, 1999, requires background checks on foreign visitors and imposes a moratorium on visits to the national labs by foreign nationals of countries on the Sensitive Countries List, until DOE's Director of Counterintelligence, the Director of the FBI, and the DCI issue certifications about security measures for the foreign visitors program. The Secretary of Energy, though, may waive the ban on a case-by-case basis. Secretary Richardson said on December 2, 1999, that he will begin to issue such waivers for foreign scientists, in order to "restore the proper balance between security and science."²¹

New National Nuclear Security Administration (NNSA). In May 1999, Senators Kyl, Murkowski, and Domenici drafted an amendment to the Defense Authorization bill (S. 1059) to create a new agency within DOE, but Senate leaders removed the language on May 27 after Secretary Richardson threatened to recommend a Presidential veto.²² The Administration, represented by Richardson, opposed the Senators' proposal, saying it would undermine his authority and create a new "fiefdom."²³ A critic of the proposal wrote that "DOE is indeed a dysfunctional bureaucracy, but the labs are not better. Making the labs more autonomous is the wrong way to go."²⁴ Other opponents have said that the labs need to retain openness in order to advance scientific research that is important to national security.

On the other side, the President's Foreign Intelligence Advisory Board (PFIAB), chaired by former Senate Warren Rudman, recommended, on June 15, 1999, a new Agency for Nuclear Stewardship (ANS) and argued that semi-autonomous or independent "organizations like NASA [National Aeronautics and Space Administration] and DARPA [Defense Advanced Research Projects Agency] have advanced scientific and technological progress while maintaining a respectable record of security."²⁵ Secretary Richardson agreed with the PFIAB that DOE's organizational structure requires serious change but expressed "strong reservations" about the recommendation for a semi-independent or independent agency.²⁶

On June 7, 1999, Representative Thornberry introduced H.R. 2032 to establish a Nuclear Security Administration in the Department of Energy. Some Members also looked at introducing language to reorganize DOE in the Senate Intelligence Authorization bill for FY 2000 (S. 1009).

²¹ Pincus, Walter, "Energy Chief to Allow Foreign Scientists to Visit Labs," *Washington Post*, December 3, 1999.

²² *Congressional Quarterly*, June 19, 1999, p. 1475-76.

²³ *Congressional Quarterly*, June 26, 1999, p. 1559-60.

²⁴ Eldredge, Maureen (director of the Alliance for Nuclear Accountability, a watchdog group on DOE), "Don't Trust Our Nuclear Labs," *Washington Post*, June 28, 1999.

²⁵ President's Foreign Intelligence Advisory Board, Special Investigative Panel, *Science at its Best, Security at its Worst: A Report on Security Problems at the U.S. Department of Energy*, unclassified, June 1999. Also called the Rudman Report.

²⁶ DOE, "Statement by Secretary of Energy Richardson on the President's Foreign Intelligence Advisory Board Report," June 15, 1999.

On July 7, 1999, however, Secretary Richardson agreed to the proposal to set up a new ANS, as long as it would be a semi-autonomous agency within DOE, under his control, and not a fully autonomous agency.²⁷ By a vote of 96-1, the Senate on July 21, 1999, approved an amendment (S.Amdt. 1258, Kyl) to the Senate-passed FY 2000 Intelligence Authorization Act (H.R. 1555) to create the ANS. Richardson praised the bill, saying it was "a good start" in codifying reforms at DOE.²⁸ The ANS would be a separately organized agency within the DOE, under the direction of the Energy Secretary, to be headed by the Under Secretary for Nuclear Stewardship who shall also serve as director of the ANS. Democratic Senators Bingaman and Levin sought changes to the amendment, including explicit authority for the Energy Secretary to continue to use the field offices²⁹ and to control counterintelligence and security operations. The House's options included agreeing to the Senate's plan or opting for another option, including leaving the organization of DOE unchanged, creating an independent agency outside of DOE, and changing the contractual arrangements for running the labs (under the University of California (UC), for example). Some have asserted that UC, whose contract has not been subject to competitive bidding since 1943, provides "marginal" oversight of and "political protection" for some DOE labs.³⁰ (UC operates the Lawrence Livermore and Los Alamos labs, while Lockheed Martin Corporation runs Sandia.)

Then, the House Armed Services Committee argued that it has jurisdiction over nuclear weapons and that the FY 2000 National Defense Authorization Act (S. 1059; P.L. 106-65) ought to legislate organizational changes at DOE. Conferees adopted H. Rept. 106-301 on August 6, 1999, that would create a National Nuclear Security Administration (NNSA) within DOE effective March 1, 2000. However, the Administration and some Democrats on the Senate Armed Services Committee objected to what they argued would undermine the Energy Secretary's authority. Senator Levin said that "the final product on DOE reorganization appears to go beyond creation of a new, separately organized entity within DOE, which I support." He said that the Energy Secretary would have direct control over the administrator of NNSA, but not its employees. Representative Thornberry contended that the secretary would have no restraints on his authority over the new administrator.³¹

²⁷ Pineus, Walter, "Richardson Accepts Nuclear Agency Plan," *Washington Post*, July 8, 1999.

²⁸ DOE, news release, "Statement of Secretary of Energy Bill Richardson on the Senate Bill to Reorganize the Department of Energy," July 21, 1999.

²⁹ The Rudman Report called for streamlining DOE's system of 11 field offices, with 6,000 employees, in addition to 5,000 at headquarters, that resulted in a "convoluted and bloated management structure."

³⁰ Trujillo, Manuel and Chuck Montano (Los Alamos employees), "Compromised: The Los Alamos Lab," letter to the editor, *Washington Post*, July 7, 1999. UC runs Los Alamos and Lawrence Livermore. Lockheed Martin Corp. runs Sandia.

³¹ McCutcheon, Chuck and Pat Towell, "Defense Bill Negotiators Fail to Placate Administration on Nuclear Security Proposal," *Congressional Quarterly Weekly*, August 7, 1999.

Richardson initially wanted to recommend that President Clinton veto the bill, as its provision on DOE reorganization differed from the Senate-passed intelligence authorization act he supported in July 1999. Richardson objected to the conference report because, he says, it would undermine his authority; blur the lines of responsibility in security, counterintelligence, environment, safety and health; and direct budgetary proposals be made directly to Congress.³² In addition to some Democrats in Congress, 46 state attorneys general also urged a Presidential veto.³³

After the House and Senate passed S. 1059 in September 1999, Richardson announced on September 26, 1999, that he would not oppose the bill. He said, "I believe we can interpret the provisions so there are clear lines of responsibility and the secretary is in charge and we protect our national security."³⁴

Concerns about Compliance with the Law. Upon signing the FY 2000 National Defense Authorization Act into law (P.L. 106-65) on October 5, 1999, President Clinton raised concerns in Congress when he criticized the DOE reorganization (Title 32) as "the most troubling" part of the act and said that legislative action to "remedy the deficiencies" will help in the process of nominating the new Under Secretary for Nuclear Security who will head the NNSA. "Until further notice," the President directed the Secretary of Energy to act as the Under Secretary for Nuclear Security and to direct all personnel of the NNSA.³⁵

At a Senate Armed Services Committee hearing two days later, Senator Domenici charged that the Administration was trying to circumvent the new law.³⁶ Representative Spence, chairman of the House Armed Services Committee, wrote to the President that his order would undermine congressional intent.³⁷ On October 19, 1999, the Senate Government Affairs, and Energy and Natural Resources Committees held a joint hearing to warn Secretary Richardson against failure to implement the law to establish the NNSA. Richardson assured Members that he will comply with the law but urged Congress to use the Intelligence Authorization Act (H.R. 1555) to correct what he saw as deficiencies in the Defense Authorization Act. Some Members said it was premature to allege noncompliance, since the effective date is March 1, 2000. In November 1999, the House and Senate passed H.R. 1555 without provisions on security at the DOE labs.

³² Pincus, Walter, "Richardson May Urge Veto of Nuclear Agency," *Washington Post*, August 7, 1999; "Richardson Likely to Urge Authorization Bill Veto Over DOE Language," *Inside the Pentagon*, August 12, 1999.

³³ Pincus, Walter and Vernon Loeb, "Veto Urged for Energy Revamp," *Washington Post*, September 9, 1999.

³⁴ "Energy to Clinton: Sign Defense Bill," *Associated Press*, September 27, 1999; "Richardson Relents," *CQ Weekly*, October 2, 1999.

³⁵ White House, "Statement by the President," October 5, 1999.

³⁶ Towell, Pat, "Nuclear Agency Eruption," *CQ Weekly*, October 9, 1999.

³⁷ Pincus, Walter, "DOE Plan Riles Senate GOP," *Washington Post*, October 19, 1999.

A CRS legal memorandum for Representative Thornberry (that has been made public) agreed that President Clinton's statement and directions raise legal and constitutional issues on the question of the Administration's compliance with the law creating the NNSA.³⁸

On January 7, 2000, Secretary Richardson submitted DOE's plan for implementation of legislation to establish the NNSA on March 1, 2000 and named a committee to search for the first Under Secretary for Nuclear Security who is to serve as the head of NNSA.³⁹

However, Richardson's plan raised questions about the semi-autonomous status of the NNSA, calling for some DOE officials to "serve concurrently" in some functions, including nuclear security and counter-intelligence. He cited reasons such as "program continuity," "shortness of time for implementation," and the "scheduled change in executive branch administration next January." Field managers at some field operations will also "serve concurrently in dual positions."

Indeed, a special panel of the House Armed Services Committee, with Representatives Thornberry, Tauscher, Hunter, Graham, Ryun, Gibbons, Sisisky, and Spratt, reviewed DOE's implementation plan and cited some "serious flaws."⁴⁰ While the panel was encouraged by DOE's recent actions, it criticized the plan for "dual-hatting" DOE and NNSA officials; continuing the confused and inadequate lines of authority (e.g., with no changes in the field office structure); emphasizing DOE authority; lacking improvements to NNSA programming and budgeting; lacking specificity and comprehensiveness; and reflecting little outside consultation. The panel's report concluded that the implementation plan, if carried out, would "violate key provisions of the law." However, Representative Spratt offered his dissenting views. While he agreed that the implementation plan fell short of the legal requirements, he objected that the panel's report was too conclusive and lacked a critical review of the law that created NNSA and whether it is workable.

Other Action. In other action, Members of Congress have expressed concern about possible racial profiling used in the investigation of Wen Ho Lee and ramifications of this case on Americans of Asian Pacific heritage. The House, on November 2, 1999, passed H.Con.Res. 124, introduced by Representative Wu to express the sense of Congress that the Attorney General, Secretary of Energy, and the Commissioner of the Equal Employment Opportunity Commission should enforce security at the labs and investigate allegations of discrimination. On August 5, 1999,

³⁸ CRS Memorandum, "Assessment of Legal Issues Raised by the President's Directions to the Secretary of Energy With Respect to the Implementation of the National Nuclear Security Administration Act in His Signing Statement of October 5, 1999," November 1, 1999, by Morton Rosenberg. The congressional office has released the memo.

³⁹ DOE, "Implementation Plan: National Nuclear Security Administration," January 1, 2000; "Energy Department Proceeds with Implementation of National Nuclear Security Administration," news release, January 7, 2000.

⁴⁰ House Armed Services Committee, Special Panel on Department of Energy Reorganization, "Department of Energy National Nuclear Security Administration Implementation Plan: An Assessment," February 11, 2000.

Senator Feinstein introduced S.Con.Res. 53, condemning prejudice against individuals of Asian and Pacific Island ancestry, which the Senate passed on July 27, 2000. (See also Ethnic Profiling below.)

The Senate, led by Republican Members, voted (51-48) to reject the Comprehensive Test Ban Treaty (CTBT) on October 13, 1999, because of reservations about the implications for U.S. national security. Some supporters of the CTBT argued that the treaty may be one way to impede the PRC's nuclear weapon modernization, even if it acquired U.S. secrets, because Beijing needs to test, while blueprints and computer codes are not enough. Democratic Senator Byron Dorgan and Republican Senator Arlen Specter wrote in September 1999 that "most Americans have heard that China may have obtained secret information about U.S. nuclear weapon designs. What they haven't heard is that China may not be able to do much with that information — if the U.S. Senate does the right thing."⁴¹

Administration's Actions

Response to Security Concerns

The Clinton Administration has acknowledged that improvements to security measures have been required at the nuclear weapon labs and said that it took a number of corrective actions in response to indications in 1995 that China may have obtained secrets about the W88 in the 1980s. Officials have said that, by mid-1996, DOE had reported to the FBI, National Security Council (NSC), and Intelligence Committees in Congress that there were serious concerns about China. Prompted by information from DOE and the CIA, the FBI had begun an investigation in September 1995. On April 7, 1997, the FBI completed an assessment of "great vulnerability" due to inadequate counterintelligence at the labs and reported those findings and 16 recommendations to DOE as well as the Senate Intelligence Committee.⁴²

Former Energy Secretary Federico Pena has defended DOE policies during his tenure from March 1997 to June 1998, saying that the department took a number of actions to strengthen security, including briefing the FBI, CIA, the Departments of Justice and Defense, and the NSC. In July 1997, DOE officials briefed the White House on its review of two decades of PRC efforts to acquire U.S. nuclear weapon secrets. A special working group of the National Counterintelligence Policy Board recommended ways to tighten lab security in September 1997, and, in February 1998, the White House issued Presidential Decision Directive (PDD-61)⁴³ to strengthen counterintelligence at the labs. In October 1997, FBI Director Louis Freeh and

⁴¹ Dorgan, Byron and Arlen Specter, "U.S. Wants, Needs Nuclear Test Ban Pact," *USA Today*, September 13, 1999.

⁴² Testimony of FBI Director Louis Freeh before the House Appropriations Subcommittee on Commerce, Justice, State, and Judiciary, March 17, 1999.

⁴³ For an unclassified summary of PDD-61, see Appendix to the President's Foreign Intelligence Advisory Board's June 1999 report, *Science at its Best, Security at its Worst: A Report on Security Problems at the U.S. Department of Energy*.

Director of Central Intelligence (DCI) George Tenet briefed Pena. In March 1998, Freeh and Tenet briefed lab directors on weaknesses in counterintelligence efforts. DOE established an Office of Counterintelligence, headed by a former FBI counterintelligence official, Edward Curran, on April 1, 1998. Curran, on July 1, 1998, submitted a report to the Secretary of Energy, with 46 recommendations for strengthening counterintelligence in response to PDD-61. The Secretary had 30 days to respond to the National Security Advisor, but Richardson did not become Secretary until September 1998. He issued an action plan on November 13, 1998.⁴⁴

Energy Secretary Richardson testified on March 16, 1999, that after he took over DOE in September 1998, he ordered some corrective measures. He said those steps included a requirement for employees with access to classified information to take polygraphs, making DOE the only agency besides the CIA to have the requirement; the hiring of counterintelligence professionals at the nuclear weapon labs; repeated doubling of DOE's counterintelligence budget (\$7.6 million in FY 1998, \$15.6 million in FY 1999, and a request for \$31.2 million in FY 2000); and a requirement for background checks on foreign visitors to the labs. Richardson also reported that DOE has implemented about 80 percent of the measures directed by PDD-61 and was to have achieved full implementation by the end of March 1999.⁴⁵

When he was fired from Los Alamos on March 8, 1999, the government's only suspect was identified in the press as Dr. Wen Ho Lee, a U.S. computer scientist. Secretary Richardson reportedly said he fired Lee because the W88 case became public and Lee allegedly failed a polygraph test in February 1999.⁴⁶ Richardson also alleged that Lee failed to notify officials about certain contacts with people in the PRC, to properly safeguard classified material, and to cooperate on security matters. However, Richardson fired Lee *before* agents checked his computers at work later that month and discovered that he had downloaded sensitive files to an unclassified computer at Los Alamos, alleged crimes separate from the W88 case. FBI Director Louis Freeh said on March 17, 1999, that this case "is an active investigation. We've not made charges against anybody, so nobody should be accused of anything." The Cox Committee's unclassified report released in May 1999 was careful not to name any suspects.

Appearing before the Senate Intelligence Committee on March 17, 1999, Secretary Richardson announced seven initiatives to strengthen counterintelligence at the Department of Energy, in addition to PDD-61. Those steps are to:

- improve security of cyber-information systems, including electronic mail;

⁴⁴ Pena, Federico, "Alert At The Energy Department," *Washington Post*, March 16, 1999; Richardson, Bill (Secretary of Energy), "Guarding Our Nuclear Security," *Washington Post*, March 15, 1999; Energy Secretary Bill Richardson, testimony on March 16, 1999; Gary Samore (NSC), briefing at Carnegie Endowment, March 17, 1999; Senate Armed Services Committee Hearing, April 12, 1999.

⁴⁵ Joint Hearing, Senate Armed Services and Energy Committees, March 16, 1999.

⁴⁶ Pincus, Walter, "Spy Suspect Fired At Los Alamos Lab," *Washington Post*, March 9, 1999.

- improve security of documents containing weapon design data;
- review the foreign visitors' program (to be led by former DCI John Deutch);
- direct the deputy secretary and undersecretary to monitor the program to strengthen counterintelligence;
- review all investigative files in the Office of Counterintelligence;
- report annually to Congress on the counterintelligence and foreign visitors' programs;
- begin an internal review to examine allegations that a top official blocked notification to Congress.⁴⁷

Furthermore, on April 2, 1999, Secretary Richardson ordered the nuclear weapon labs to suspend scientific work on computers that contain nuclear weapon secrets. This step was taken to prevent the possibility that sensitive data would be copied from secure computers and sent electronically through unclassified computers. Richardson acknowledged potential problems, saying that "our computer security has been lax, and I want to strengthen it, and the only way to do that is to stand down." The suspension was ordered in part because Lee was an expert in the computer systems, and an internal review showed that security measures at Los Alamos and Livermore labs were "marginal," while Sandia received a "satisfactory" rating.⁴⁸ In September 1999, Richardson reported that Los Alamos improved its security and received a "satisfactory" rating, while Livermore and Sandia got "marginal" ratings.⁴⁹

On May 11, 1999, Energy Secretary Richardson announced further reforms of DOE to increase control over the nuclear weapon labs, including the appointment of a "security czar" who will report directly to the Secretary. One month later, Richardson named retired Air Force General Eugene Habiger, former Commander in Chief of the U.S. Strategic Command, as the Director of a new Office of Security and Emergency Operations.⁵⁰ Richardson also planned to consolidate security funds in DOE under one \$800 million budget and an additional \$50 million over two years to improve computer-related security. Also, there would be greater controls over floppy disk drives that could transfer files out of the classified computer systems, and DOE would require electronic "banners" on government computers warning users that they computers are subject to monitoring.⁵¹ DOE originally requested \$2 million for computer security, but increased the request to \$35 million after the PRC espionage case came to light. However, Congress in September 1999 did not approve the additional request in a conference committee on energy appropriations, and an unnamed Member said the committee wants to see management reform before

⁴⁷ Department of Energy release, March 17, 1999.

⁴⁸ Risen, James, "Energy Department Halts Computer Work at Three Nuclear Weapon Labs," *New York Times*, April 7, 1999.

⁴⁹ DOE, news release, "Energy Secretary Richardson Releases Results of Independent Security Reviews at National Labs," September 20, 1999.

⁵⁰ DOE, news release, "Richardson Selects Security 'Czar'," June 16, 1999.

⁵¹ Risen, James, "Energy Secretary Announces Program to Strengthen Lab Security," *New York Times*, May 12, 1999.

approving a large funding increase.⁵² In December 1999, Habiger complained that Congress did not provide all the funds he needs to improve security at the labs, but Representative Cox countered that Habiger has not provided Congress with a detailed plan for how the additional millions would be used.⁵³

The first official to lose his job as a result of the Los Alamos controversy was Victor Reis, the Assistant Energy Secretary in charge of defense programs since 1993, who resigned on June 25, 1999.⁵⁴ Testifying before the House Armed Services Committee on July 14, 1999, Reis acknowledged that he has "some responsibility" for the security problems and he "could have pressed harder" to strengthen security, but asserted that many other officials at DOE and FBI share the blame.⁵⁵

In July 1999, DOE instituted a new policy that requires DOE employees with security clearances to report any "close and continuing contacts" with foreigners from the sensitive countries on DOE's list.⁵⁶ Also in July, Richardson issued revised procedures to more closely monitor visits and assignments of foreign nationals to DOE's facilities, as part of implementing PDD-61. Lab directors no longer have authority to grant waivers of DOE security requirements, and only the Secretary may approve waivers. Richardson also derided discrimination against Americans of Asian Pacific heritage, saying that the new order only affects foreign citizens, not Americans.⁵⁷

On August 12, 1999, Richardson announced the results of an internal DOE inquiry by the inspector general and ordered that three individuals be disciplined. (See Law Enforcement vs. Security below.)

In October 1999, Richardson decided to narrow the scope of controversial polygraph tests, originally considered for over 5,000 lab employees, so that about 1,000 people working in the most sensitive areas, primarily at the three nuclear weapon laboratories, will be tested. They include nuclear weapon designers, security and counterintelligence officials, employees at nuclear weapon production plants, and

⁵² Pincus, Walter and Vernon Loeb, "DOE Loses \$35 Million for Cyber Security," *Washington Post*, September 29, 1999.

⁵³ Suro, Roberto, "Energy's Security Initiative Lacks Fuel," *Washington Post*, December 2, 1999.

⁵⁴ Pincus, Walter, "Nuclear Officials' Future Uncertain," *Washington Post*, June 25, 1999.

⁵⁵ Pincus, Walter, "Plenty of Blame to Go Around on Spying; DOE's Ex-Arms Chief Says," *Washington Post*, July 15, 1999.

⁵⁶ Pincus, Walter and Vernon Loeb, "Isn't It Romantic: Security Rules Exempt One-Night Stands," *Washington Post*, September 2, 1999.

⁵⁷ DOE, news release, "Richardson Toughens Requirements for Unclassified Foreign Visits and Assignments," July 14, 1999.

political appointees at DOE headquarters.⁵⁸ In December 1999, Richardson narrowed the number to about 800 employees who will have to take the lie-detector test.⁵⁹

On December 10, 1999, as directed by Attorney General Reno, the Justice Department arrested and indicted Lee for mishandling classified information—but not for passing secrets to any foreign government. (See Indictment of Wen Ho Lee below.)

On January 7, 2000, Secretary Richardson presented his plan to establish the new NNSA. (See section on new NNSA above.)

Richardson, on January 19, 2000, received the report and recommendations from the Task Force Against Racial Profiling that he had established in June 1999. (See Racial Profiling and Selective Prosecution below.)

On January 25, 2000, Secretary Richardson said that security and counter-intelligence have been dramatically improved, including training for 700 computer systems administrators in cyber-security. DOE security czar, Eugene Habiger, said that it is now almost impossible for lab employees to transfer nuclear secrets from classified to unclassified computer systems.⁶⁰ With the tightening of security, however, there are concerns that a worsened scientific environment at the labs has hurt their mission.⁶¹

As of March 1, 2000, the NNSA began operations. Secretary Richardson directed that about 2,000 DOE employees be realigned to be employees of NNSA.⁶²

On May 3, 2000, President Clinton nominated U.S. Air Force General John A. Gordon, Deputy Director of Central Intelligence since November 1997, to be the first Under Secretary for Nuclear Security and administrator of NNSA, a decision announced by Secretary Richardson on March 2, 2000.⁶³ The Senate confirmed (97-0) the nomination on June 14, 2000. Richardson swore in Gordon on June 28, 2000.

⁵⁸ Pincus, Walter, "Richardson Cuts Lab Lie Tests Sharply," *Washington Post*, October 16, 1999.

⁵⁹ DOE, "DOE Polygraph Implementation Plan Announced," press release, December 13, 1999.

⁶⁰ Loeb, Vernon, "Energy Chief Touts Security Upgrades at Nuclear Labs," *Washington Post*, January 26, 2000.

⁶¹ Loeb, Vernon, "From Coast to Coast, Fallout From a Probe at California Lab, Tightened Security Too Much for Some," *Washington Post*, December 21, 1999.

⁶² Secretary of Energy Richardson, "Memorandum for All Department Employees," March 1, 2000.

⁶³ DOE, "General John A. Gordon Selected to Head National Nuclear Security Administration," March 2, 2000.

Questions about the Response

Timeliness and Responsiveness. Critics have argued that the Clinton Administration was slow to respond to concerns about China and the labs and that DOE officials have resisted reforms for years. They have said that in November 1996, Charles Curtis (Undersecretary and then Deputy Secretary of Energy from February 1994 to April 1997), ordered new security measures (called the Curtis Plan)⁶⁴, but these steps — including requiring background checks again for all foreign visitors — were not carried out by the labs nor followed up by DOE officials. They have also voiced concerns about related developments reported in the press, specifically that in April 1997, the FBI recommended changes at the labs, including reinstating background checks on foreign visitors, but the DOE did not implement improvements in counterintelligence until after Bill Richardson became Secretary of Energy (in August 1998). In the spring of 1997, DOE had selected the suspect to head a program to update the computer programming used in the stockpile stewardship program that evaluates the performance of nuclear weapons without testing, and he hired a PRC citizen to assist him.⁶⁵ Moreover, some critics have questioned why the President did not issue PDD-61 until February 1998, although the suspicions that China obtained W88 data arose in 1995 and the FBI made recommendations to tighten counterintelligence measures in April 1997.⁶⁶

The President's Foreign Intelligence Advisory Board (PFIAB), led by former Senator Rudman, reported in June 1999 that "the speed and sweep of the [Clinton] Administration's ongoing response does not absolve it of its responsibility in years past," and "there is some evidence to raise questions about whether its actions came later than they should have." The PFIAB also noted that "the track record of previous administrations' responses to DOE's problems is mixed."⁶⁷

The PFIAB noted that PDD-61 was issued on February 11, 1998, and after Secretary Richardson was sworn in on August 18, he submitted the action plan to the NSC on November 13. However, the DOE's completed implementation plan was delivered to Secretary Richardson on February 3, 1999 and issued to the labs on March 4. The board said that "we find unacceptable the more than four months that elapsed before DOE advised the National Security Advisor on the actions taken and specific remedies developed to implement the Presidential directive, particularly one

⁶⁴ Hearing of the Senate Armed Services Committee, April 12, 1999.

⁶⁵ Risen, James, "Suspect Scientist Led Key Los Alamos Program," *New York Times*, March 24, 1999.

⁶⁶ Risen, James and Jeff Gerth, "China Stole Nuclear Secrets From Los Alamos, U.S. Officials Say," *New York Times*, March 6, 1999; David E. Sanger, "Clinton Aides Admit Lapses On Espionage by Chinese," *New York Times*, March 7, 1999; Jeff Gerth, "Nuclear Lapses Known in '96, Aides Now Say," *New York Times*, March 17, 1999; Vernon Loeb and Juliet Eilperin, "GOP Attacks' Impact on China Ties Concerns White House," *Washington Post*, March 17, 1999.

⁶⁷ President's Foreign Intelligence Advisory Board (PFIAB), Special Investigative Panel, *Science at its Best, Security at its Worst: A Report on Security Problems at the U.S. Department of Energy*, unclassified, June 1999.

so crucial.” PFIAB further declared that “the fact that the Secretary’s implementation plan was not issued to the labs until more than a year after the PDD was issued tells us **DOE is still unconvinced of Presidential authority** (PFIAB’s emphasis).”

On July 2, 1999, House Commerce Committee chairman Tom Bliley and Rep. Fred Upton, chairman of the Oversight and Investigations Subcommittee, issued a joint statement one day after receiving a classified briefing on DOE’s May 1999 inspection of security measures at Lawrence Livermore. They said that the briefing had been “delayed repeatedly by Secretary Richardson without any legitimate basis.” They stated that the inspection found “serious deficiencies” in the areas of computer security, foreign visitor controls and clearances, and protection of nuclear materials. They also questioned why DOE managers failed to detect deficiencies on their own.⁶⁸

Law Enforcement vs. Security. There are additional concerns that the Administration did not act promptly enough or investigated aggressively enough to protect national security, because the prime suspect identified by DOE and the FBI in the W88 case, though not charged with any crime, remained employed at Los Alamos until March 8, 1999. The PFIAB’s report stated in June 1999 that “there does not exist today a systematic process to ensure that the competing interests of law enforcement and national security are appropriately balanced.”

Although criminal investigations usually require leaving the suspects in place to obtain evidence and assess damage, the suspect was only required to take polygraph tests in December 1998 (conducted by DOE) and in February 1999 (given by the FBI). DOE did not remove him from access to highly classified information in the X Division until December 1998⁶⁹ and did not dismiss until March 8, 1999⁷⁰, even though the Director of the FBI had informed DOE officials in a meeting on August 12, 1997, that there was not sufficient evidence to warrant keeping the investigation a secret and that denying the suspect continued access to sensitive information may be more important than the FBI’s stalled case.⁷¹ In congressional testimony on March 16, 1999, Energy Secretary Richardson confirmed that the FBI began its investigation in 1995, and he asserted that DOE and the FBI have worked “extremely cooperatively.” Yet, Secretary Richardson acknowledged concerns when he decided to begin an investigation at DOE to determine how the prime suspect retained his access to classified information and his job.⁷²

⁶⁸ “Bliley, Upton React to Briefing on Livermore Security Inspection,” press release, July 2, 1999.

⁶⁹ Cox Committee’s unclassified report, May 1999, Vol. 1, p. 90.

⁷⁰ Pincus, Walter, “Spy Suspect Fired At Los Alamos Lab,” *Washington Post*, March 9, 1999.

⁷¹ Risen, James and Jeff Gerth, “China Stole Nuclear Secrets from Los Alamos, U.S. Officials Say,” *New York Times*, March 6, 1999; Testimony of Louis Freeh, Director of the FBI, before the House Appropriations Subcommittee on Commerce, Justice, State, and Judiciary, March 17, 1999.

⁷² Risen, James, “U.S. Inquires Why Suspect At Atom Lab Kept Access,” *New York Times*, April 23, 1999.

On August 12, 1999, Richardson announced the results of the internal DOE inquiry by the Inspector General into the espionage investigation. Richardson declared, "there was a total breakdown in the system and there's plenty of blame to go around."⁷³ He said that "the espionage suspect should have had his job assignment changed to limit his access to classified information much sooner than it was, and cooperation with the FBI should have been stronger." He also announced that of the 19 DOE officials identified by the Inspector General as bearing some responsibility for counterintelligence and security, three employees would be disciplined. News reports identified those three individuals as Sig Hecker, former director of Los Alamos from 1986 to 1997 still employed as a scientist; Robert Vrooman, former head of counterintelligence at Los Alamos serving as a consultant; and Terry Craig, a former counterintelligence team leader working at a different part of the lab. In addition, former secretary Federico Pena, former deputy secretary Elizabeth Moler, and former deputy secretary Victor Reis reportedly would have been subject to disciplinary action if still employed by DOE.⁷⁴

Wiretaps and Computer Monitoring. There are also questions about why the FBI did not conduct electronic surveillance of the suspect or search his office and home computers earlier. FBI agents began to question him on March 5, 1999⁷⁵ and, after he was fired, searched his office, including government computers, in March and his home in April 1999.⁷⁶ Some question the Department of Justice's role in not supporting the FBI's requests to electronically monitor him through wiretaps. The FBI said that the Justice Department's Office of Intelligence Policy Review (OIPR) denied the FBI's applications for electronic surveillance, or wiretaps, of the suspect in August 1997 and in December 1998, because there was insufficient evidence that the suspected espionage activity was current. Because the OIPR did not approve the applications, they did not reach the court established under the authority of the Foreign Intelligence Surveillance Act (FISA).

On May 24, 1999, Reno said that the Justice Department has not authorized intrusions in the lives of American citizens "when, as in this case, the standards of the Constitution and the Foreign Intelligence Surveillance Act (FISA) have not been met." She further explained that "although I was not apprised of the details of the case at the time the decision was made, I have reviewed the decision of the OIPR and fully support it." Also, contrary to some reports, the 1997 request for FISA coverage "did not contain a request to search any computer."⁷⁷ At a closed hearing of the Senate Judiciary Committee on June 8, 1999, Attorney General Janet Reno explained

⁷³ DOE press release, "Richardson Announces Results of Inquiries Related to Espionage Investigation," August 12, 1999.

⁷⁴ Loeb, Vernon, "Discipline Urged Against Los Alamos Employees," *Washington Post*, August 13, 1999.

⁷⁵ Risen, James, "U.S. Fires Nuclear Scientist Suspected of Spying for China," *New York Times*, March 9, 1999.

⁷⁶ Vernon Loeb and Walter Pincus, "FBI Searches Home Of Scientist Suspected Of Spying For China," *Washington Post*, April 11, 1999.

⁷⁷ Department of Justice, "Statement by Attorney General Janet Reno on the Los Alamos Laboratory Matter," May 24, 1999.

that "the FISA application was legally insufficient to establish probable cause."⁷⁸ Among the reasons, she said the request focused on the Lees, while "the elimination of other logical suspects, having the same access and opportunity, did not occur."

The PFIAB said that "the Department of Justice may be applying the FISA in a manner that is too restrictive, particularly in light of the evolution of a very sophisticated counterintelligence threat and the ongoing revolution in information systems." The board also questioned "why the FBI's FISA request did not include a request to monitor or search the subject's workplace computer systems."

However, there are competing concerns about protection of civil liberties. As the *Washington Post* stated, "the Lee case, for example, has been cited as evidence of the need to relax civil liberties protections to make surveillance easier in national security cases. This is a dreadful idea." The *Post* also cautioned that Dr. Lee "is entitled to a presumption of innocence that he has not typically received in public discussions of the matter."⁷⁹

Some are concerned that the lack of monitoring over the prime suspect's computer use may have grave consequences for securing secrets of U.S. nuclear weapons. Additional reports have revealed that Secretary Richardson shut down the lab computers on April 2, 1999, because investigators discovered after Lee was fired and after obtaining permission to check his computer in March 1999 that he had carried out a possibly significant compromise of computer security affecting nuclear weapons. The FBI discovered that he had transferred enormous volumes of files containing millions of lines of highly secret computer codes on nuclear weapon designs (called "legacy codes") from a classified computer to an unclassified computer at Los Alamos. Moreover, someone who improperly used a password may have subsequently accessed the files in the unclassified computer.⁸⁰ Lee also tried to delete some of the classified files.⁸¹ The FBI says that it was not able to obtain a search warrant to search the computer at Los Alamos earlier, because the labs did not place "banners" warning employees that the computers were outside the protection of privacy rights and subject to government monitoring. However, in May 1999, a report said that Lee, in 1995, had indeed signed a routine waiver giving Los Alamos the right to audit his computer use.⁸²

Speaking publicly for the first time in his own defense, Dr. Wen Ho Lee said in a television interview on August 1, 1999, that he is innocent of wrongdoing, he did

⁷⁸ On December 21, 1999, the Judiciary Committee released an unclassified transcript of the hearing.

⁷⁹ "The Espionage Scandal," *Washington Post*, August 19, 1999.

⁸⁰ Risen, James and Jeff Gerth, "U.S. Says Suspect Put Data on Bombs in Unsecure Files," *New York Times*, April 28, 1999.

⁸¹ Loeb, Vernon and Walter Pincus, "Los Alamos Security Breach Confirmed," *Washington Post*, April 29, 1999; James Risen and Jeff Gerth, "China Spy Suspect Reportedly Tried to Hide Evidence," *New York Times*, April 30, 1999.

⁸² Risen, James, "Energy Secretary Announces Program to Strengthen Lab Security," *New York Times*, May 12, 1999.

not disclose nuclear secrets to China or any unauthorized person, and he transferred the files on weapon data to an unclassified computer to protect the information, which is "common practice" at the labs. Lee also said that he has been made a "scapegoat" in the investigation even though he devoted "the best time of my life to this country," because he was the only Asian American working in the X Division, the group in charge of weapon design at Los Alamos.⁸³ Others have reportedly described the transfer of computer files between classified and unclassified computers at the labs to have been common practice, particularly after the computer network at Los Alamos split into two networks in December 1994.⁸⁴

On August 5, 1999, Senators Thompson and Lieberman of the Governmental Affairs Committee reported on a bipartisan basis how DOE, FBI, and DOJ may have mishandled the investigation, particularly in communications among them.⁸⁵

In announcing the results of an inquiry by DOE's Inspector General, Richardson confirmed on August 12, 1999, that Lee had signed a computer privacy waiver in April 1995, but a counterintelligence official failed to adequately search lab records and missed the waiver. Thus, the FBI did not know about the waiver until May 1999. Richardson recommended disciplinary action against the official.⁸⁶

On March 8, 2000, Senator Specter, as part of his investigation under the jurisdiction of the Senate Judiciary Subcommittee on Administrative Oversight and the Courts, issued a report critical of the investigations of Wen Ho Lee. The report criticized the FBI's and DOE's investigations as "inept." It also criticized the Department of Justice and Attorney General Janet Reno for not forwarding the FBI's request for a warrant to the FISA court, despite "ample, if not overwhelming, information to justify the warrant."⁸⁷ However, Senator Charles Grassley, chairman of the subcommittee, criticized the FBI for not telling Congress through most of 1999 that the bureau had found that Lee was not the prime suspect in the espionage case at Los Alamos. Senator Grassley said that he, along with Senators Specter and Torricelli, had asked the General Accounting Office to examine whether a senior FBI official (believed to be Neil Gallagher, head of the National Security Division) had withheld documents from Congress in 1999. (The FBI then asked that the investigation be suspended after Wen Ho Lee's indictment.) Senator Grassley sent

⁸³ CBS, "60 Minutes," August 1, 1999; Robert Pear, "Suspect in Atom Secrets Case Publicly Denies Aiding China," *New York Times*, August 2, 1999.

⁸⁴ Carey, Pete, "Intricate System Adds Complexity to Spying Probe; Inner Workings of Weapons Lab May Slow Search for Evidence," *San Jose Mercury News*, June 10, 1999.

⁸⁵ Senate Governmental Affairs Committee, "Department of Energy, FBI, and Department of Justice Handling of the Espionage Investigation into the Compromise of Design Information on the W88 Warhead," August 5, 1999; Walter Pincus, "China Spy Probe Bungled, Panel Finds," *Washington Post*, August 6, 1999.

⁸⁶ DOE, news release, "Richardson Announces Results of Inquiries Related to Espionage Investigation," August 12, 1999.

⁸⁷ Senator Arlen Specter, "Report on the Investigation of Espionage Allegations Against Dr. Wen Ho Lee," March 8, 2000.

a letter to Senator Specter that disputed his report, saying that the evidence against Lee was weak.⁸⁸

Scope of Investigation. Reports have said that the investigation in the W88 espionage case (originally code-named "Kindred Spirit") prematurely narrowed in on one lab (Los Alamos) and one suspect (Wen Ho Lee). In June 1999, the PFIAB's report criticized the Administration's investigation as focusing too narrowly "on only one warhead, the W-88, only one category of potential sources — bomb designers at the national labs — and on only a four-year window of opportunity." The investigation, it said, "should have been pursued in a more comprehensive manner."⁸⁹ The FBI reportedly had one or two agents to the case in 1996, increased the number of agents to three or four in 1997, and assigned 40 agents by mid-1999.⁹⁰

Acknowledging concerns about how the W88 case was handled, Attorney General Reno said on May 6, 1999, that the Justice Department would establish a panel of FBI agents and federal prosecutors to conduct an internal review of the investigation of Wen Ho Lee.⁹¹ Then, on September 23, 1999, Attorney General Janet Reno and FBI Director Louis Freeh announced that the government had expanded its investigation to conduct a more thorough examination of evidence and possible alternative sources of information, including military facilities and defense contractors.⁹² The FBI reportedly began this expanded espionage investigation in April 1999 and gave it the code-name "Fall-out."⁹³

However, a report said that as early as January 1999, two months before Wen Ho Lee's arrest, the FBI had doubted that he was the source of the PRC's information on the W88 nuclear warhead. The FBI's field office in Albuquerque, NM, wrote a memo to headquarters on January 22, 1999, questioning whether Lee was the prime suspect in the W88 case (code-named "Kindred Spirit"), in part because he passed the December 1998 polygraph test. An earlier memo, written on November 19, 1998, from the Albuquerque office to headquarters had stated that investigators would look into 10 other people who had been named as potential suspects in DOE's administrative probe. Senator Arlen Specter, however, at whose hearing the documents emerged, dismissed those doubts about Lee being the prime suspect, saying that FBI agents were "thrown off" course by the 1998 polygraph.⁹⁴

⁸⁸ Loeb, Vernon, "GAO Probing Senior FBI Official," *Washington Post*, March 9, 2000.

⁸⁹ PFIAB.

⁹⁰ Risen James and Jeff Gerth, "U.S. Is Said To Have Known Of China Spy Link in 1995," *New York Times*, June 27, 1999.

⁹¹ Walsh, Edward, "Reno Sets Review of 'Process' on China Spying Concerns," *Washington Post*, May 7, 1999.

⁹² Risen, James and David Johnston, "U.S. Will Broaden Investigation of China Nuclear Secrets Case," *New York Times*, September 23, 1999.

⁹³ Loeb, Vernon, "Spy Probe Raised Doubts," *Washington Post*, March 7, 2000.

⁹⁴ Loeb, Vernon, "Spy Probe Raised Doubts," *Washington Post*, March 7, 2000.

By November 1999, the FBI reportedly had acquired new evidence that the PRC may have acquired information about U.S. nuclear weapons from a facility that assembles those weapons. The evidence apparently stemmed from errors in the PRC intelligence document said to contain a description of the W88 warhead. The errors were then traced to one of the "integrators" of the weapons, possibly including Sandia National Lab, Lockheed Martin Corporation (which runs Sandia), and the Navy.⁹⁵

On May 16, 2000, Attorney General Janet Reno reportedly was briefed on the classified, four-volume report of the Justice Department's internal review of its handling of the original investigation. The review is said to have found that the FBI mishandled the espionage probe, in part because of internal turf wars, by not acting sooner, not committing enough resources sooner, and prematurely focusing on Wen Ho Lee as the only prime suspect. The report is said to state that the government could have discovered Lee's downloading of computer files years earlier, since he had signed a privacy waiver and a court order was not required.⁹⁶

Indictment of Wen Ho Lee. Former Los Alamos scientist Wen Ho Lee's criminal case is a result of, but unrelated to, the government's investigation of whether the PRC obtained W88 secrets by espionage (the original probe called "Kindred Spirit" and the expanded investigation called "Fall-out"). By November 1999, the Justice Department reportedly was not planning to charge Lee with espionage, because there was no evidence that he passed nuclear weapon secrets to the PRC.⁹⁷ On December 4, 1999, the top law-enforcement, security, and DOE officials held a meeting at the White House on whether to indict the prime suspect. Attorney General Janet Reno, National Security Advisor Sandy Berger, Energy Secretary Bill Richardson, FBI Director Louis Freeh, DCI George Tenet, and U.S. Attorney John Kelly attended.⁹⁸

By December 1999, the FBI completed the specific investigation that focused on Lee's transfers of computer files, which were discovered *after* he was fired in March 1999 and FBI agents searched his home in April 1999. The case was presented to a federal grand jury in Albuquerque, N.M. On December 10, 1999, as directed by Attorney General Reno, the Justice Department arrested and indicted Lee for allegedly "mishandling classified information" – but not for passing secrets to any foreign government(s).⁹⁹ Lee was charged with violations of the Atomic Energy Act,

⁹⁵ Loeb, Vernon and Walter Pincus, "FBI Widens Chinese Espionage Probe," *Washington Post*, November 19, 1999.

⁹⁶ Vise, David A. and Vernon Loeb, "Justice Study Faults FBI in Spy Case," *Washington Post*, May 19, 2000.

⁹⁷ Pincus, Walter, "U.S. Near Decision on Indicting Lee in Los Alamos Case," *Washington Post*, November 5, 1999.

⁹⁸ Risen, James and David Johnston, "Decision Nears on the Fate of Ex-Los Alamos Scientist," *New York Times*, December 8, 1999.

⁹⁹ Department of Justice, U.S. Attorney John J. Kelly, District of New Mexico, news release, "Wen Ho Lee Indicted for Violating the Atomic Energy Act of 1954 and for Unlawful Gathering and Retention of National Defense Information," December 10, 1999.

including unlawful acquisition and removal of Restricted Data,¹⁰⁰ that carry a maximum penalty of life imprisonment.¹⁰¹ The charges included the “intent to injure the United States” or “to secure an advantage to any foreign nation.” Furthermore, Lee was charged with violations of the Federal Espionage Act, including unlawful gathering and retention of national defense information, that carry a maximum penalty of imprisonment for ten years.¹⁰²

Specifically, the 59-count indictment alleged that Lee knowingly downloaded and removed from Los Alamos extensive “classified files” relating to the design, manufacture, and testing of nuclear weapons. The investigation, which included holding over 1,000 interviews and searching more than 1,000,000 computer files, found that Lee transferred classified files to 10 portable computer tapes and that seven of the tapes were unaccounted for. The government charges that Lee, in 1993 and 1994, transferred Restricted Data on nuclear weapon research, design, construction, and testing from the classified computer system to an unsecure computer at Los Alamos, and then later downloaded the files to nine tapes. As recently as 1997, Lee allegedly downloaded current nuclear weapon design codes and other data directly to a 10th tape. These simulation codes are used to compare computer calculations with actual nuclear test data.

Four hours before the indictment, Lee’s lawyer faxed a letter to the U.S. Attorney, saying that Lee wanted to take another polygraph and to provide “credible and verifiable” information to show that “at no time did he mishandle those tapes in question and to confirm that he did not provide those tapes to any third party.”¹⁰³

At a hearing in Albuquerque, N.M., on December 13, 1999, Wen Ho Lee pleaded not guilty to the charges. Without elaboration, his defense attorneys maintained that the seven tapes had been destroyed and that there is no evidence that Lee has the tapes or has disclosed or attempted to disclose the tapes. Lee was ordered to be held in jail without bail, until his trial, despite his attorneys’ offer to post \$100,000 bond and place Lee on electronic surveillance at his home.¹⁰⁴ Lee was then held in solitary confinement, placed in shackles for a significant time period, and denied outdoor exercise. Lee’s trial was set to begin on November 6, 2000.

Meanwhile, on December 20, 1999, Wen Ho Lee and his wife filed a lawsuit against the Departments of Energy and Justice and the FBI for alleged violations of the Privacy Act of 1974. The Lees charge that, since at least early 1999, the

¹⁰⁰ Restricted Data means data concerning: 1) the design, manufacture, or utilization of atomic weapons; 2) production of special nuclear material; or 3) the use of special nuclear material in the production of energy.

¹⁰¹ 42 USCS § 2275 and § 2276.

¹⁰² 18 USCS § 793 (c) and § 793(e).

¹⁰³ Loeb, Vernon, “Physicist is Indicted in Nuclear Spy Probe,” *Washington Post*, December 11, 1999.

¹⁰⁴ Berthelsen, Christian, “Nuclear-Weapons Scientist Pleads Not Guilty; Held Without Bail,” *New York Times*, December 14, 1999.

government has made numerous intentional, unauthorized disclosures about them, causing them to be unfairly and inaccurately portrayed by the media as PRC spies.¹⁰⁵

In April 2000, Lee's attorney revealed that, in 1999, only *after* Lee was fired, the government re-assigned a higher security classification to the computer files containing nuclear secrets that Lee is charged with downloading. At the time that Lee downloaded the files, they were not classified information, but considered "protect as restricted data (PAR)," a category of security assigned to voluminous and changing scientific data, not a security classification of Secret or Confidential, as the indictment charged. Both sides are said to agree that the government had changed this classification after the downloading, as shown in the prosecution's evidence. While Lee's defense attorney argued that the indictment was "deceptive," the Justice Department maintained that Lee took the "crown jewels" of U.S. nuclear weapon secrets. Lee's lawyers also found that PAR's security ranking was five on a scale of nine, the highest being secret restricted data.¹⁰⁶

There has been another theory, that if Wen Ho Lee provided U.S. nuclear weapon information to a third-party, it was not to the PRC, but to Taiwan, where he was born. In 1998, after having allegedly downloaded files to portable computer tapes in 1993, 1994, and 1997, Lee reportedly worked in Taiwan as a consultant to the Chung Shan Institute of Science and Technology, which conducts military research and development. During a visit to Taiwan in December 1998, Lee is said to have dialed up the main computer at Los Alamos and used his password to access the classified nuclear files he had downloaded. Lee's trips to Taiwan were approved at Los Alamos.¹⁰⁷ Lee's defense team requested, in May 2000, that the prosecution name the foreign nation(s) that Lee allegedly sought to help, saying that it was unfair of the government not to name the countries in charging Lee.¹⁰⁸ The federal judge in New Mexico then ordered the prosecution to disclose the foreign nation(s) by July 5, 2000.¹⁰⁹ On that date, the U.S. Attorney filed a document that named eight foreign governments that Lee may have sought to help in downloading the nuclear data. Those places named are: the PRC, Taiwan, Australia, France, Germany, Hong Kong, Singapore, and Switzerland, places (except for the PRC) where Lee had expressed an interest in applying for work in 1993, when he feared losing his job at Los Alamos.¹¹⁰

¹⁰⁵ "Family of Dr. Wen Ho Lee Announces Filing of Privacy Act Lawsuit Against the Department of Justice, the FBI, and the Department of Energy," news release, December 20, 1999.

¹⁰⁶ Broad, William J., "Files in Question in Los Alamos Case Were Reclassified," *New York Times*, April 15, 2000.

¹⁰⁷ Pincus, Walter, "Lee's Links to Taiwan Scrutinized," *Washington Post*, Dec. 31, 1999.

¹⁰⁸ Benke, Richard, "Defense Challenges Government's Refusal to Name Foreign Country," *Associated Press*, May 30, 2000.

¹⁰⁹ Pincus, Walter and Vernon Loeb, "U.S. Told to Name Nations That Lee Would Have Aided," *Washington Post*, June 27, 2000.

¹¹⁰ Loeb, Vernon and Walter Pincus, "Lee May Have Shared Copied Data with 8 Nations, U.S. Says," *Washington Post*, July 7, 2000.

Another issue for the Administration and the prosecution has been how much of the classified information can be released as evidence. Secretary Richardson was responsible for part of the decision, based on recommendations from his new security czar.¹¹¹ On August 1, 2000, U.S. District Judge James Parker ruled in favor of Lee's defense, requiring that the government publicly explain to a jury the nuclear secrets Lee allegedly downloaded, including any flaws in the tapes (which would not help any possible recipients of the information).¹¹²

In August 2000, there began a dramatic turn of public events, favorable to Lee's defense and his release. At a hearing to secure release for Lee on August 16-18, 2000, a top nuclear weapons expert, John Richter, countered the prosecution's case, testifying that 99 percent of the information that Lee downloaded were publicly available. Also according to Richter, even if a foreign government obtained the information, there would be no "deleterious effect" on U.S. national security, because other governments cannot build the sophisticated U.S. nuclear warheads based on computer simulation codes downloaded by Lee. Richter testified that the "crown jewels" of U.S. nuclear weapons secrets are not the simulation codes that Lee downloaded, but the data from over 1,000 nuclear tests. Richter also conceded to wanting Lee acquitted and that a foreign power could use the codes to help design nuclear weapons, although not a complete design. At the same hearing, Lee's defense attorneys also argued that FBI Special Agent Robert Messemer gave false testimony about Lee's alleged deception at the first hearing on his bail in December 1999. Messemer admitted that he gave inaccurate testimony, an "honest mistake," and that Lee did not lie to a colleague (Kuok-Mee Ling) about writing a "resume," but Messemer said that the error was not meant to mislead the court.¹¹³

The hearing produced a major victory for Lee's defense on August 24, 2000, when U.S. District Judge James Parker reversed his decision from eight months earlier and ruled that Lee may be released on bail to be kept under strict supervision at home. Judge Parker's ruled that the government's argument to keep Lee in jail "no longer has the requisite clarity and persuasive character."¹¹⁴ Family, neighbors, and friends began to plan a home-coming welcome for Lee but had to repeatedly postpone it.

After a hearing on August 29, 2000, on the conditions of Lee's release, the judge ruled that Lee can be released on \$1 million bail and with tight restrictions at home, with a three-day stay for the prosecution to search his house, consult with the Justice Department, and prepare for a possible appeal. The restraints would include electronic monitoring of Lee, surveillance of his phone calls and mail, and restrictions

¹¹¹ Risen, James, "Security of Los Alamos Data Could Delay Trial U.S. Says," *New York Times*, August 7, 1999.

¹¹² Pincus, Walter, "U.S. Judge Rules for Lee On Nuclear Data Issue," *Washington Post*, August 3, 2000.

¹¹³ Loeb, Vernon, "Nuclear Weapons Expert Urges Bail for Lee," *Washington Post*, August 17, 2000; Vernon Loeb and Walter Pincus, "Judge: Lee Can Be Freed on Bail," *Washington Post*, August 25, 2000.

¹¹⁴ Loeb, Vernon and Walter Pincus, "Judge: Lee Can Be Freed on Bail," *Washington Post*, August 25, 2000; Order of U.S. District Judge, August 24, 2000.

on visitors, including his daughter and son. However, the government argued, unsuccessfully, that restrictions should also cover Lee's communications with his wife, Sylvia.¹¹⁵ Lee's family and friends had offered over \$2 million in assets for bail.

In an opinion, dated August 31, 2000, Judge Parker discussed at length new revelations in the case that warranted his granting of release on bail after over eight months. He said, "while the nature of the offenses is still serious and of grave concern, new light has been cast on the circumstances under which Dr. Lee took the information, making them seem somewhat less troubling than they appeared to be in December." He noted, among many points, that top weapons designers testified that the information Lee downloaded is less sensitive than previously described; that FBI Agent Robert Messemer "testified falsely or inaccurately" in December 1999 about Lee; that the government has an alternative, less sinister, theory that Lee sought to enhance prospects for employment abroad; that the government never presented direct evidence that Lee intended to harm the United States; that family, friends, and colleagues supported Lee's character; and that what the government had described as the "crown jewels" of the U.S. nuclear weapons program "no longer is so clearly deserving of that label."¹¹⁶

Meanwhile, several groups of scientists wrote to express concerns about what they considered unfair treatment of Lee. For example, on August 31, 2000, the National Academy of Sciences, National Academy of Engineering, and the Institute of Medicine wrote to Attorney General Janet Reno expressing concerns that Lee "appears to be a victim of unjust treatment" and "the handling of his case reflects poorly on the U.S. justice system."¹¹⁷

Then, very shortly before Lee's scheduled release on bail on September 1, 2000, the 10th U.S. Circuit Court of Appeals ordered a temporary stay of Lee's release, pending a hearing. Soon after, the U.S. Attorney filed a formal request, saying that Lee's release would pose "an unprecedented risk of danger to national security."¹¹⁸

Then, on September 10, 2000, the prosecution and defense revealed that they had negotiated a plea agreement, under which Lee would plead guilty to one felony count of unlawful retention of national defense information, help the government to verify that he destroyed the seven tapes (as he has maintained), and the government would drop the other 58 counts and free Lee (with sentence to the nine months he served in jail). U.S. Attorney General Janet Reno and FBI Director Louis Freeh reportedly approved the plea agreement, which had been negotiated over the previous

¹¹⁵ Vernon Loeb and Walter Pincus, "Lee Could be Freed on Bail Friday," *Washington Post*, August 30, 2000.

¹¹⁶ Walter Pincus and Vernon Loeb, "Judge Questions Nuclear Case," *Washington Post*, September 6, 2000; U.S. District Judge James Parker, Memorandum Opinion, August 31, 2000.

¹¹⁷ National Academy of Sciences, National Academy of Engineering, and Institute of Medicine, open letter to the U.S. Attorney General, August 31, 2000.

¹¹⁸ Vernon Loeb, "At Last Minute, U.S. Court Bars Lee's Release on Bail," *Washington Post*, September 2, 2000.

several weeks.¹¹⁹ At times citing the Judge's rulings, Lee's defense, some reporters, and critics said that the prosecution's case had crumbled and represented a gross injustice that threatened the rights of all Americans because of politics. However, the prosecution and Clinton Administration officials argued that Lee's downloading of files was unlawful and finding out what happened to the computer tapes was more important than proceeding to trial.

After three days of delays, the prosecution and defense reached final agreement on the plea. On September 13, 2000, Wen Ho Lee pleaded guilty to unauthorized possession of defense information (downloading files using an unsecure computer to tapes). The judge sentenced Lee to 278 days in jail (the nine months Lee already served before trial) and freed him. Lee agreed to answer questions for 10 days over three weeks starting on September 26, 2000. The government may prosecute Lee, have him take a polygraph test, and nullify the plea agreement if the government believes Lee is lying. Both sides agreed to withdraw pending motions, including that of the defense on selective prosecution. In a dramatic conclusion to the case, Judge Parker noted "the fact that [he] lost valuable rights as a citizen" and apologized to Lee for the "unfair manner [he was] held in custody." Parker said that he found it "most perplexing" that the government now "suddenly agreed" to Lee's release, despite its earlier warnings of risks to national security. The judge blamed the executive branch, particularly top officials of the Departments of Energy and Justice, saying they "have embarrassed our entire nation and each of us who is a citizen of it."¹²⁰

In response, U.S. Attorney Norman Bay argued that "this is a case about a man who mishandled huge amounts of nuclear data and got caught doing it." He added that justice is served because Lee must "tell us what he did with the tapes ... something he refused to do for approximately the past 18 months."¹²¹ Attorney General Reno said that "this is an agreement that is in the best interest of our national security, in that it gives us our best chance to find out what happened to the tapes."¹²²

Sylvia Lee, Deutch Case, and Other Issues. A number of other issues have complicated the case on Wen Ho Lee. One issue was the relationship between the FBI and the suspect and his wife, Sylvia Lee. Contrary to earlier reports that a trip the Lees took to China in the 1985 was suspicious because Mrs. Lee, a secretary, was the one invited to speak, it now appears that she had been informing on PRC visitors for the FBI from 1985 to 1991 and that Los Alamos encouraged her to attend the

¹¹⁹ Bob Drogin, "Scientist to Accept Plea Deal; Likely to Be Freed Today," *Los Angeles Times*, September 11, 2000; James Sterngold, "U.S. to Reduce Case Against Scientist to a Single Charge," *New York Times*, September 11, 2000.

¹²⁰ Richard Benke, "Wen Ho Lee Set Free After Pleading Guilty to One Count," *AP*, September 13, 2000; Vernon Loeb, "Physicist Lee Freed, With Apology," *Washington Post*, September 14, 2000.

¹²¹ Marcus Kabel, "Wen Ho Lee Freed Amid Apologies from Judge," *Reuters*, September 13, 2000.

¹²² Statement from Attorney General Janet Reno, *Washington Post*, September 14, 2000.

conference.¹²³ In addition, it has been reported that Wen Ho Lee cooperated with the FBI and passed a polygraph in 1982. Lee helped the FBI after he had made an intercepted call to another scientist at Lawrence Livermore lab who was under suspicion of espionage. The press reported in July 2000 that Sylvia Lee informed on visiting PRC scientists for the CIA in the 1980s, and Wen Ho Lee also met with the CIA officer who worked with his wife before the Lees visited the PRC in 1986.¹²⁴

Another issue for Lee's case is the government's decision not to prosecute former DCI John Deutch. There is a debate about whether Deutch's case is analogous to Lee's, with some saying that the treatment of Lee is unfair and there is a double-standard, and others arguing that the two people had different intentions. The CIA investigated Deutch (DCI in 1995-1996) for repeatedly mishandling classified information and moving many classified intelligence files to his unsecured personal computers in his house, computers used to access the Internet and thus vulnerable to attacks. The files reportedly include 17,000 pages of documents, including top secret materials and files about presidentially-approved covert action. Further, the CIA is said to have reported that Deutch may have tampered with evidence allegedly showing his improper handling of classified files, including, on December 20, 1996, trying to delete over 1,000 classified files stored on one of four portable memory cards. Additional reports disclose that the CIA's inspector general's classified report concluded that top CIA officials impeded the agency's investigation of Deutch, possibly to allow the time limit on appointing an independent counsel to lapse, and that DCI George Tenet has set up a special panel to examine those findings.

The CIA's investigation of Deutch began in December 1996, when he was leaving office. The CIA did not notify the Justice Department until early 1998. The Senate Intelligence Committee was notified of the case in June 1998. The Justice Department decided in April 1999 not to prosecute, apparently without any FBI investigation and before the CIA inspector general issued its report. After the inspector general's report was completed in July 1999, the current DCI, in August 1999, suspended Deutch's security clearance indefinitely. According to the CIA's announcement, the inspector general concluded that while no evidence was found that national security information was lost, "the potential for damage to U.S. security existed." The Senate Intelligence Committee received a copy of the inspector general's report in late August 1999.¹²⁵

¹²³ Pincus, Walter, "FBI Aided By Los Alamos Scientist's Wife," *Washington Post*, April 26, 1999.

¹²⁴ Stober, Dan, "Wen Ho Lee's Wife Worked for CIA," *San Jose Mercury News*, July 23, 2000.

¹²⁵ Klaidman, Daniel, "Was the Spymaster Too Sloppy," *Newsweek*, April 19, 1999; Steven Lee Myers, "Former Chief of CIA Is Stripped of Right to Classified Information," *New York Times*, August 21, 1999; "Double Trouble," *Newsweek*, November 8, 1999; James Risen, "C.I.A. Inquiry of Its Ex-Director Was Stalled at Top, Report Says," *New York Times*, February 1, 2000; Senate Intelligence Committee, "Senate Select Committee on Intelligence Chairman and Vice Chairman Comment on Deutch Allegations," news release, February 1, 2000.

On February 18, 2000, the CIA's inspector general released an unclassified report of its investigation into Deutch's case.¹²⁶ The report found, among other findings, that Deutch had processed classified information on unsecure computers that were connected to the Internet and thus were "vulnerable to attacks by unauthorized persons." Moreover the information concerned covert action, Top Secret communications intelligence, and the National Reconnaissance Program budget. The report concluded that despite Deutch's knowledge of prohibitions against processing classified information on unclassified computers, he "processed a large volume of highly classified information on these unclassified computers, taking no steps to restrict unauthorized access to the information and thereby placing national security information at risk." The report also criticized "anomalies" in the way senior CIA officials responded to the problem.

Reportedly concerned about appearances of unfairness in comparisons between the cases involving Wen Ho Lee and John Deutch, Attorney General Janet Reno announced on February 24, 2000, that her department would review Deutch's case.¹²⁷ Then, by May 2000, the Justice Department and the FBI began a criminal investigation of whether Deutch had mishandled classified information – in a reversal of Reno's 1999 decision not to prosecute.¹²⁸ By August 2000, the former prosecutor whom Reno asked to review the case, Paul Coffey, reportedly decided to recommend that the Justice Department prosecute Deutch, and Reno is to make the final decision.¹²⁹ By September 2000, the Senate Intelligence Committee met in closed session with DCI Tenet on Deutch's case, and Coffey reportedly may recommend a charge of misdemeanor against Deutch for taking classified information home without authorization.¹³⁰

The resignation of Notra Trulock, DOE's primary whistleblower, in August 1999 may also complicate the investigation. As the *Washington Post* wrote, "Mr. Trulock may well have stated the overall problem in terms more dramatic than the evidence clearly supported. And his single-mindedness with respect to Los Alamos and Mr. Lee in particular — which is alleged by some detractors to have been related to Mr. Lee's ethnicity — also may have closed off significant investigative leads."¹³¹

¹²⁶ CIA Inspector General, "Report of Investigation: Improper Handling of Classified Information by John M. Deutch (1998-0028-IG)," February 18, 2000.

¹²⁷ Loeb, Vernon and David A. Vise, "Reno Reviews CIA Probe of Ex-Director," *Washington Post*, February 25, 2000; Walter Pincus and Vernon Loeb, "U.S. Inconsistent When Secrets are Loose," *Washington Post*, March 18, 2000.

¹²⁸ Risen, James, "Criminal Investigation Follows Review of Agency's Internal Handling of Deutch," *New York Times*, May 6, 2000.

¹²⁹ David A. Vise and Vernon Loeb, "Reno Weighs Whether to Prosecute Former CIA Chief," *Washington Post*, August 26, 2000; Jerry Seper, "Document-Misuse Charges Sought Against Ex-CIA Boss," *Washington Times*, August 29, 2000.

¹³⁰ Robert L. Jackson, "Ex-CIA Director May Face Misdemeanor for Breach," *Los Angeles Times*, September 14, 2000.

¹³¹ "Mr. Trulock's Resignation," *Washington Post*, August 27, 1999.

Further complicating the case is the debate over relative importance of the PRC's own modernization efforts as opposed to foreign technology acquisitions. Some say that the investigation overstated the importance of PRC espionage.¹³²

On Lee's transfers of files to an unclassified computer at the lab that was discovered after he was fired, Administration officials reportedly said that none of the legacy codes that Lee had transferred to an unclassified computer appeared to have been accessed by unauthorized people. Some say that lab employees may want to transfer codes to unclassified computers with a better editing program.¹³³

Further reports say that on numerous times in 1994, someone at the University of California at Los Angeles (UCLA) used Wen Ho Lee's password to access Los Alamos' computer system via the Internet. Lee's daughter, Alberta, who was majoring in mathematics at UCLA, has testified that she accessed the more powerful computer systems at Los Alamos and also at the Massachusetts Institute of Technology to play a computer game called "Dungeons and Dragons." Prosecutors have questioned this.¹³⁴

Lee's case is further complicated by the FBI's reportedly aggressive tactics in his interrogation on March 7, 1999, the day before he was fired from Los Alamos, which was before the government discovered his downloading of files to tapes. According to the transcript, FBI agents falsely told Lee that he had failed a polygraph given by DOE in December 1998, when Lee had actually scored highly for honesty. The agents also threatened Lee with arrest and execution for espionage. Lee maintained his innocence throughout the interrogation. Some say the FBI was unfair and biased in misleading Lee, but others say the tactic is accepted practice in law-enforcement in trying to elicit confessions. At a hearing in late December 1999, the prosecution conceded that Lee did pass the DOE's polygraph but said that he failed the polygraph given by the FBI in February 1999.¹³⁵ Moreover, according to a report, the FBI changed the results of Lee's DOE polygraph, which showed a high degree of truthfulness. Weeks after Lee had passed that test, DOE changed the finding to "incomplete" instead, and the FBI later said that Lee failed the test.¹³⁶

Another report said that Lee initially did not comprehend the severity of the government's investigation of him and that he was wholly naive and unprepared for the FBI's intensified interrogation, which actually began on March 5, 1999. Robert Vrooman, then head of counterintelligence at Los Alamos, listened in another room. He said that he and the agents came away convinced Lee was not a spy. However,

¹³² Broad, William J., "Spies Versus Sweat: The Debate Over China's Nuclear Advance," *New York Times*, September 7, 1999.

¹³³ Loeb, Vernon, "Spy Suspect Cooperated with FBI in '82," *Washington Post*, May 2, 1999.

¹³⁴ Pincus, Walter, "U.S. Probes Remote Accessing of Los Alamos Computer," *Washington Post*, January 24, 2000.

¹³⁵ Loeb, Vernon and Walter Pincus, "FBI Misled Wen Ho Lee Into Believing He Failed Polygraphy," *Washington Post*, January 8, 2000.

¹³⁶ CBS Evening News, "Wen Ho Lee's Polygraph Results Questioned," February 5, 2000.

someone at the FBI then ordered two agents, Carol Covert and John Podenko, to conduct the "hostile interview" of Lee on March 7, 1999, telling him falsely that he had failed a polygraph, warned him of "electrocution" and never seeing his children again, and demanded that he sign a confession of "espionage" with a potential death penalty, all without the counsel of a lawyer. According to Vrooman, Covert was "distraught" after that aggressive interview, because she did not believe Lee was guilty, took three months sick leave, and transferred out of the Sante Fe office.¹³⁷

Racial Profiling and Selective Prosecution. There are concerns that, in rightfully protecting national security, racial profiling and selective prosecution have been used in law-enforcement and that Lee, as an American entitled to a presumption of innocence, may have been unfairly targeted as the prime suspect in a narrow investigation and in media reports because of his Chinese ethnicity (although he was born in Taiwan).¹³⁸ Aside from the implications of these issues for Lee's case, these issues raise questions about the effectiveness of the government's approach in countering PRC espionage in general and in investigating the W88 case in particular.

In his public statement on "60 Minutes" on August 1, 1999, Lee said he believes he has been made a scapegoat by investigators, because he was the only Asian American working on nuclear weapon designs in the sensitive X Division at Los Alamos in the last 18 years. Ed Curran, head of counterintelligence at DOE, is quoted in the same show as expressing concern that "since Wen Ho Lee has not been proven guilty of anything and thus must be presumed innocent, the surfacing of his name has been devastating to his family and to his life."

The National Asian Pacific American Legal Consortium wrote a letter to Secretary Richardson on August 5, 1999, denouncing his accusation that Lee used the "race card" and expressing concerns about racial profiling. On August 10, 1999, the Committee of 100, an organization comprised of prominent Americans of Chinese descent, sent a letter to Attorney General Reno and Secretary of Energy Richardson expressing concerns about "selective investigation" based on Lee's ethnicity. The letter said, "Dr. Lee and the nation deserve a case made on the merits of a thorough and professional investigation, not a racist witchhunt." The Coalition of Asian Pacific American Federal Employee Organizations (CAPAFEO) presented a position paper to President Clinton on September 30, 1999, which urged the Administration "to take strong and effective measures to protect the rights and civil liberties of Americans of Asian descent by vigorously enforcing our nation's laws which prohibit discrimination based on race of national origin." The group wrote that "while law enforcement and counter-intelligence agencies must be ever vigilant, in their zeal, they must also be careful to safeguard the civil and employment rights of all Americans."¹³⁹

¹³⁷ Bob Drogin, "How FBI's Flawed Case Against Lee Unraveled," *Los Angeles Times*, September 13, 2000.

¹³⁸ Loeb, Vernon, "Spy Probe Worries Chinese Americans," *Washington Post*, August 14, 1999.

¹³⁹ Coalition of Asian Pacific American Federal Employee Organizations (CAPAFEO), "Los Alamos Position Paper," sent to President Clinton on September 30, 1999 and presented to the Congressional Asian Pacific Caucus on October 5, 1999.

In August 1999, Robert Vrooman, former head of counterintelligence at Los Alamos, publicly said that Wen Ho Lee was targeted because he is an American of Chinese descent and that the case against “was built on thin air.” Vrooman issued his comments after Secretary Richardson recommended disciplinary action against him and two other former Los Alamos officials for alleged mishandling of the counterintelligence investigation. Vrooman said that “Lee’s ethnicity was a major factor” in targeting him, while “a lot of Caucasians” were not investigated. Vrooman also said that a detailed description of the W88 warhead was distributed to 548 recipients throughout the government, military, and defense companies, so the information could have leaked from many sources.¹⁴⁰ Two others who were involved in the investigation, Charles Washington and Michael Soukup, also said that Lee was singled out as a suspect because of his ethnicity, not because of evidence.¹⁴¹

A news report said that Notra Trulock, who led the investigation until the summer of 1996, had compiled a list of 70 people at Los Alamos who visited China and then narrowed the list to 12 people. He said he give the list to the FBI, which then eliminated the other 11 suspects, leaving Wen Ho Lee as the prime suspect. The initial list of 70 people included those with no access to classified or weapons information and who traveled to China on non-work related trips. One Caucasian scientist, however, who was a specialist in the same field as Lee (hydrodynamics), worked on classified information, and went to China on a professional trip, was not among the 12. Further, Robert Vrooman said that there were 15 people who conducted nuclear weapons research and visited China, but were not on the list of 12 suspects.¹⁴²

However, Notra Trulock, who headed the counterintelligence investigation at DOE, has insisted that “race was never a factor.”¹⁴³ Senators Thompson and Lieberman, whose Governmental Affairs Committee reviewed the investigation, wrote on August 26, 1999, that “the evidence we have seen and heard provides no basis for the claim that the initial DOE-FBI inquiry focused upon the Lees because of their race. Only much later in the process, once Mr. Lee had already been identified as the chief suspect, did the investigation consider the Lees’ ethnicity — and then only because, according to FBI counterintelligence experts, Beijing’s intelligence actively tries to recruit Chinese American scientists working in sensitive U.S. facilities.”¹⁴⁴ One of these experts, Paul Moore, who headed the FBI’s counterintelligence efforts against China from 1978 to 1998, has written publicly that “Chinese Americans are

¹⁴⁰ Loeb, Vernon, “Ex-Official: Bomb Lab Case Lacks Evidence,” *Washington Post*, August 17, 1999; William J. Broad, “Official Asserts Spy Case Suspect Was a Bias Victim,” *New York Times*, August 18, 1999.

¹⁴¹ Loeb, Vernon and Walter Pincus, “Espionage Whistleblower Resigns,” *Washington Post*, August 24, 1999.

¹⁴² James Sterngold, “U.S. to Reduce Case Against Scientist to a Single Charge,” *New York Times*, September 11, 2000.

¹⁴³ Broad, William J., “Official Denies Spy Suspect Was Victim of Bias,” *New York Times*, August 19, 1999.

¹⁴⁴ Thompson, Fred and Joseph Lieberman, “On the Chinese Espionage Investigation,” (letter to the editor), *Washington Post*, August 26, 1999.

subjected to oppressive ethnic intelligence profiling” by China and that “China’s espionage methodology, not a particular spy, is the main threat.” He has explained the PRC’s unconventional espionage by saying that “China doesn’t so much try to steal secrets as to try to induce foreign visitors to give them away by manipulating them into certain situations.”¹⁴⁵

Others argue that even if the PRC targets ethnically Chinese people, the government should not target Americans of Chinese heritage as a group, nor would such efforts be effective to counter PRC espionage. The policy director of Chinese for Affirmative Action and an associate professor of law at Howard University wrote that Lee’s case “has raised disturbing allegations that the government uses a racial profile when investigating espionage” and argued that “law enforcement based on racial profiling is also ineffective.”¹⁴⁶ Former Ambassador to China James Lilley wrote that “the fact that China tries to recruit spies doesn’t mean that Chinese-Americans as a group should be suspect.”¹⁴⁷ In his statement in support of Wen Ho Lee’s motion for discovery of materials related to selective prosecution, Charles Washington, a former Acting Director of Counterintelligence at DOE, declared that he is not aware of any “empirical data that would support a claim that Chinese-Americans are more likely to commit espionage than other Americans.”¹⁴⁸

Members of Congress have expressed concern about possible racial profiling used in the investigation of Wen Ho Lee and ramifications of this case on Americans of Asian Pacific heritage. In May 1999, Representative Wu introduced H.Con.Res. 124 to express the sense of Congress relating to recent allegations of espionage and illegal campaign financing that have brought into question the loyalty and probity of Americans of Asian ancestry. Among other provisions, the resolution calls upon the Attorney General, Secretary of Energy, and the Commissioner of the Equal Employment Opportunity Commission to vigorously enforce the security of America’s national laboratories and investigate all allegations of discrimination in public or private workplaces. The House passed H.Con.Res. 124 with the bipartisan support of 75 cosponsors, on November 2, 1999. Moreover, on August 5, 1999, Senator Feinstein introduced S.Con.Res. 53 to condemn prejudice against individuals of Asian and Pacific Island ancestry in the United States. The Senate passed the resolution on July 27, 2000. The Congressional Asian Pacific Caucus held a briefing on October 5, 1999, at which Secretary Richardson and others spoke. Chairman Robert Underwood said in his opening statement that “suspicions about a Chinese American

¹⁴⁵ Moore, Paul D., “How China Plays the Ethnic Card,” *Los Angeles Times*, June 24, 1999; “Spies of a Different Stripe,” *Washington Post*, May 31, 1999; “China’s Subtle Spying,” *New York Times*, September 2, 1999.

¹⁴⁶ Theodore Hsien Wang and Frank H. Wu, “Singled Out, Based on Race,” *Washington Post*, August 30, 2000.

¹⁴⁷ James Lilley (former ambassador to China and former CIA officer), “Undoing the Damage of the Wen Ho Lee Case,” *New York Times*, September 12, 2000.

¹⁴⁸ Declaration of Charles E. Washington, August 11, 2000.

connection to espionage have formed without evidence and with potential damage to innocent individuals.”¹⁴⁹

Energy Secretary Richardson has declared that “while U.S. national security is a top priority at the labs, I am also concerned that Asian Pacific Americans as a group are finding their loyalty and patriotism questioned in the wake of recent espionage allegations. This behavior is unacceptable and I will not tolerate it.”¹⁵⁰ In June 1999, Richardson established a Task Force Against Racial Profiling, and he received its report and recommendations on January 19, 2000.¹⁵¹ The task force included 19 government employees, contractors, and U.S. Civil Rights Commissioner Yvonne Lee. In their visits to various DOE sites, they found that “an atmosphere of distrust and suspicion was common.” Such a hostile work environment for Americans of Asian heritage resulted from the media exploitation of the espionage and related allegations, and from managers and co-workers questioning the loyalty and patriotism of some employees based on race. The task force made a number of recommendations for using leadership, building trust, improving communication, and making assessments.

Since 1999, the Equal Employment Opportunity Commission (EEOC) has investigated whether the Livermore and Los Alamos labs have discriminated against Americans of Asian Pacific heritage.¹⁵²

In August 2000, supporting their selective prosecution motion filed in June 2000, Lee’s defense attorneys had statements from two former senior DOE counter-intelligence officials, Robert Vrooman and Charles Washington, contending that Lee has been a victim of racial profiling and selective prosecution, including in the probe led by Notra Trulock. Finding some merit to Lee’s contention that he has been singled out for investigation and prosecution because of his race, Judge James Parker, on August 25, 2000, ordered the government to hand over documents, sought by the defense, to him by September 15, 2000, for his review and decision as to whether they should be given to the defense attorneys.¹⁵³ However, on September 13, 2000, when the government and Wen Ho Lee reached a plea agreement, they also agreed to withdraw pending motions. Responding to charges of selective prosecution after Lee’s release, U.S. Attorney Norman Bay, who is an American of Asian heritage, said

¹⁴⁹ Congressional Asian Pacific Caucus, briefing on the Federal Investigations at the Department of Energy National Laboratories, October 5, 1999.

¹⁵⁰ DOE news release, “Richardson Toughens Requirements For Unclassified Foreign Visits and Assignments,” July 14, 1999.

¹⁵¹ DOE, Task Force Against Racial Profiling, “Final Report,” January 2000; “Richardson Releases Task Force Against Racial Profiling Report and Announces 8 Immediate Actions,” news release, January 19, 2000.

¹⁵² “U.S. Nuke Lab Probed Over Possible Discrimination,” *Reuters*, August 1, 2000.

¹⁵³ James Sterngold, “Judge Orders U.S. to Turn Over Data in Secrets Inquiry,” *New York Times*, August 30, 2000; Vernon Loeb, “Affidavits Cite Race in Probe of Lee,” *Washington Post*, September 1, 2000; Order of U.S. District Judge James Parker, August 25, 2000; Declaration of Robert Vrooman, August 10, 2000; Declaration of Charles E. Washington, August 11, 2000.

that "Mr. Lee was not prosecuted because of his race, he was prosecuted because of what he did. He compiled his own personal library of nuclear secrets ... This is a case about a man who mishandled huge amounts of nuclear data and got caught doing it."¹⁵⁴

Notification to Congress. The chair and ranking Democrat of the House Intelligence Committee, Rep. Goss and Dicks, have been quoted as saying that they were not sufficiently informed of the problems at the labs and the information that was provided was "underplayed."¹⁵⁵ In addition, the Cox Committee's bipartisan report, approved in December 1998, urged Congress to insist on notification by the Administration, citing "the fact that the heads of Executive departments and agencies of the Intelligence Community failed adequately to comply with congressional notification requirements of the National Security Act." The Clinton Administration responded that it has fulfilled its responsibilities to keep appropriate committees informed.¹⁵⁶

Representative Hunter, chairman of the House National Security Subcommittee on Military Procurement, has stated that Elizabeth Moler, then Deputy Secretary of Energy, failed to testify about the W88 case in an October 6, 1998 hearing that included a closed session.¹⁵⁷ On April 15, 1999, Representative Hunter held a hearing to examine whether Moler (now a lawyer outside government) failed to provide accurate and complete testimony in the closed session of the October 1998 hearing and whether she instructed Notra Trulock, Acting Deputy Director of DOE's Office of Intelligence, to withhold critical information, including the W88 case, from Congress. Trulock testified that Moler edited his written testimony to remove references to "successful espionage" at the U.S. labs, even though the information was cleared by the CIA for notification to Congress, and thus did not provide the subcommittee with a full picture of the threat against the United States. Moler stated that she did not provide certain information, because the questions were directed at Trulock and he failed to fully disclose information; the subject of the hearing was on the foreign visitors' program (which was not involved in the espionage cases); some information was highly classified; and damaging information about PRC espionage would "unfairly impugn" important DOE exchange programs.¹⁵⁸

Furthermore, Trulock told the Senate Armed Services Committee on April 12, 1999, that his concerns were "ignored," "minimized," and sometimes "ridiculed"

¹⁵⁴ Marcus Kabel, "Wen Ho Lee Freed Amid Apologies from Judge," *Reuters*, September 13, 2000.

¹⁵⁵ Risen, James and Jeff Gerth, "China Stole Nuclear Secrets From Los Alamos, U.S. Officials Say," *New York Times*, March 6, 1999; David Sanger, "'No Question,' U.S. Says, Leak Helped China," *New York Times*, March 15, 1999.

¹⁵⁶ NSC's unclassified response to the recommendations, February 1, 1999.

¹⁵⁷ Loeb, Vernon and Juliet Eilperin, "GOP Attacks' Impact on China Ties Concerns White House," *Washington Post*, March 17, 1999; Bill Gertz, "Senators Briefed Privately on Spy Case," *Washington Times*, March 17, 1999.

¹⁵⁸ Hearing of the House Armed Services Subcommittee on Military Procurement, "Counterintelligence Problems at Department of Energy Labs," April 15, 1999.

especially by lab officials and that senior DOE officials “refused to authorize intelligence” for several months before he could brief then Secretary Pena in July 1997. Trulock also charged that Moler denied him approval to respond to Congressman Goss’ July 1998 request to brief the House Intelligence Committee on the W88 case. According to Trulock, DOE officials, including Moler, stated concerns about negative impacts on the credibility of the labs and lab-to-lab programs with China and Russia. In response to Senator Levin’s statement that the FBI did brief the Intelligence Committees 19 times from 1996 to 1999 on alleged espionage at the labs, Trulock stated that DOE briefed the Senate Intelligence Committee in July 1996 and the House Intelligence Committee in August 1996, but did not participate in the other 17 briefings. After 1996, Trulock said, he did not return to brief Congress until his testimony to the House Select Committee on China in September 1998.¹⁵⁹

As pointed out by Senator Levin, the Administration has said that it provided numerous briefings to the Intelligence Committees about the cases involving China and the labs. Moler has denied that she prevented Trulock from briefing Representative Goss and that she took allegations of PRC espionage at DOE seriously. On the question of whether the Administration was trying to prevent the W88 case from interfering with the policy of engagement with China, Trulock acknowledged that Gary Samore, an NSC official in charge of nonproliferation policy, did encourage DOE to proceed with “counterintelligence efforts in order to protect sensitive information at the laboratories.”¹⁶⁰

The House Government Reform Committee held a hearing on June 24, 1999, on its concerns about firings, demotions, and harassment of “whistle-blowers,” officials at the Energy and Defense Departments who expressed concerns to Congress about security problems. On July 2, 1999, Chairman Dan Burton wrote a letter to Defense Secretary Cohen criticizing an alleged gag order at the Defense Threat Reduction Agency (DTRA) against employees speaking to committee staff.¹⁶¹

Energy Secretary Richardson recognized the allegation that Moler sought to deny information to Congress, when he announced an internal inquiry as one of seven initiatives announced on March 17, 1999. In August 1999, Richardson announced the results of the internal probe by DOE’s Inspector General, which investigated the question of obstructing briefings to former Secretary Pena and Congress. However, the report failed to “establish with any certainty that any Departmental official, knowingly or intentionally, improperly delayed, prohibited, or interfered with briefings to Mr. Pena or to the congressional intelligence committees.”¹⁶² Notra Trulock, who

¹⁵⁹ Hearing of the Senate Armed Services Committee, “Alleged Chinese Espionage at Department of Energy Laboratories,” April 12, 1999; James Risen, “White House Said to Ignore Evidence of China’s Spying,” *New York Times*, April 13, 1999; Hearing of the House Armed Services Subcommittee on Military Procurement, April 15, 1999.

¹⁶⁰ Hearing of the Senate Armed Services Committee, April 12, 1999.

¹⁶¹ Hudson, Audrey, “Congressman Asks Cohen to Lift Gag Order,” *Washington Times*, July 8, 1999.

¹⁶² DOE, news release, “Richardson Announces Results of Inquiries Related to Espionage (continued...) ”

led the investigation at DOE, criticized the Inspector General's report as "a whitewash" and resigned as acting deputy director of intelligence to work at TRW Inc., a defense contractor. He expressed frustration that he had been removed from further involvement in the espionage investigation, called "Kindred Spirit," and that the internal DOE report failed to support his assertions of political interference.¹⁶³

On March 8, 2000, Senator Specter, as part of his investigation under the jurisdiction of the Senate Judiciary Subcommittee on Administrative Oversight and the Courts, issued a report critical of the investigations of Wen Ho Lee. The report criticized the FBI's and DOE's investigations as "inept." It also criticized the Department of Justice and Attorney General Janet Reno for not forwarding the FBI's request for a warrant to the FISA court, despite "ample, if not overwhelming, information to justify the warrant."¹⁶⁴ However, Senator Charles Grassley, chairman of the subcommittee, criticized the FBI for not telling Congress through most of 1999 that the Bureau had found that Lee was not the prime suspect in the espionage case at Los Alamos. Senator Grassley said that he, along with Senators Specter and Torricelli, had asked the General Accounting Office to examine whether a senior FBI official (believed to be Neil Gallagher, head of the National Security Division) had withheld documents from Congress in 1999. (The FBI then asked that the investigation be suspended after Wen Ho Lee's indictment.) Senator Grassley sent a letter to Senator Specter that disputed his report, saying that the evidence against Lee was weak.¹⁶⁵

Role of the White House and NSC. Some raise questions about how seriously National Security Advisor Sandy Berger has taken concerns about PRC espionage at the labs and when he informed President Clinton about the W88 case as well as the neutron bomb case. Some Members called for Berger to resign over the suspected compromise to national security. There are reportedly discrepancies between various accounts of when the President was briefed by the NSC about the alleged espionage cases and whether the President knew about suspected continued PRC espionage into the 1990s. The President said on March 19, 1999, that "to the best of my knowledge, no one has said anything to me about any espionage which occurred by the Chinese against the labs, during my presidency."¹⁶⁶ After the *New York Times* reported on April 8, 1999, that China sought additional neutron bomb data in 1995, however, President Clinton explained his earlier statement as a response to a question

¹⁶² (...continued)
Investigation," August 12, 1999.

¹⁶³ Loeb, Vernon and Walter Pincus, "Espionage Whistleblower Resigns," *Washington Post*, August 24, 1999; James Risen, "Official Who Led Inquiry Into China's Reputed Theft of Nuclear Secrets Quits," *New York Times*, August 24, 1999.

¹⁶⁴ Senator Arlen Specter, "Report on the Investigation of Espionage Allegations Against Dr. Wen Ho Lee," March 8, 2000.

¹⁶⁵ Loeb, Vernon, "GAO Probing Senior FBI Official," *Washington Post*, March 9, 2000.

¹⁶⁶ Eric Schmitt, "Clinton Says He Is Unaware Of Nuclear Spying During His Presidency," *New York Times*, March 20, 1999.

specifically about alleged PRC espionage at the labs, which were apparently not linked to the neutron bomb case.¹⁶⁷

In 1998, Berger reportedly told the House Select Committee on China that President Clinton was informed early that year. In May 1999, Berger said that he briefed the President in July 1997, after DOE briefed the NSC.¹⁶⁸ The press reports that intelligence and DOE officials briefed Berger as early as April 1996 on the W88 and the neutron bomb cases. Berger says that, in 1996, the reports to him were "preliminary" and that "the FBI hadn't even begun its investigation" and there was no suspect. Berger further explained that after a second briefing in 1997 that was "far more extensive" and suggested that "there was a potentially greater problem with respect to Chinese acquisition of sensitive information," he did brief the President. Berger also explained that the President did not raise the issue of PRC espionage at the October 1997 summit with PRC President Jiang Zemin because of the need to protect the secrecy of an ongoing investigation.¹⁶⁹ Yet, FBI Director Freeh testified in March 1999 that the FBI began its case (concerning the W88 data) in September 1995 and that, in August 1997, he told DOE officials that the stalled case was not as important as the protection of information.¹⁷⁰

The PFIAB said in June 1999 that "although the current National Security Advisor was briefed on counterintelligence concerns by DOE officials in April of 1996, we are not convinced that the briefing provided a sufficient basis to require initiation of a broad Presidential directive at that time. We are convinced, however, that the July 1997 briefing, which we are persuaded was much more comprehensive, was sufficient to warrant aggressive White House action."

Also, the PFIAB revealed that the White House knew about PRC espionage at the nuclear weapon labs earlier than 1996. In discussing the track record of the Clinton Administration, the report noted briefly that, in 1995, after DOE officials met with the FBI on suspected PRC espionage of U.S. nuclear weapon data, an analysis group was formed at DOE to review the PRC nuclear weapon program, and senior DOE, CIA, and White House officials discussed options. The PFIAB also noted in its chronology that, in July 1995, senior DOE officials discussed possibility that "China may have classified U.S. nuclear design information with CIA, FBI, and White House senior officials in several meetings." Former White House Chief of Staff Leon Panetta reportedly said that he was informed by then Energy Secretary Hazel O'Leary in July 1995. Afterwards, Panetta reportedly requested then DCI John Deutch to work with the NSC on the matter. Deutch briefed then National Security Advisor

¹⁶⁷ Clinton, William Jefferson, remarks at joint press conference with Chinese Premier Zhu Rongji, Washington, D.C., April 8, 1999.

¹⁶⁸ Cox Committee's report, Volume I, p. 95.

¹⁶⁹ Risen, James and Jeff Gerth, "China Stole Nuclear Secrets From Los Alamos, U.S. Officials Say," *New York Times*, March 6, 1999; Sandy Berger's interview on NBC's "Meet the Press," March 14, 1999; Jeff Gerth and James Risen, "Intelligence Report Points to Second China Nuclear Leak," *New York Times*, April 8, 1999.

¹⁷⁰ Hearing of the House Appropriations Subcommittee on Commerce, Justice, State, and Judiciary, March 17, 1999.

Anthony Lake in November 1995. The senior officials reportedly did not brief President Clinton in 1995.¹⁷¹ Sandy Berger was the Deputy National Security Advisor at that time.

Export Controls. Some critics have linked the controversy over lab security with the Administration's export control policy toward China. They cited the export of high-performance computers to China.¹⁷² The Department of Commerce reported to Congress in January 1999 that 191 such computers were exported to China in 1998, for which three end-use checks were conducted.¹⁷³ There were also concerns, investigated by Congress in 1998, that exports of U.S. satellites have resulted in transfers of missile technology to China.¹⁷⁴ Some argued that the Administration's export control policies have allowed dual-use exports "of great strategic value" to China that have resulted in greater damage to U.S. national security than the leaks of nuclear weapon data.¹⁷⁵ President Clinton, nonetheless, said that his Administration has been determined to prevent diversions of sensitive technology to China and has placed controls on exports to China that are "tougher than those applied to any other major exporting country in the world."¹⁷⁶

Nuclear Cooperation with China. Some question whether it was appropriate for the Administration to have expanded nuclear ties with China, including exchanges between the two nuclear weapon establishments, while it had suspicions about security compromises. At the 1997 U.S.-China summit, President Clinton promised to issue certifications (signed in January 1998) to implement the 1985 nuclear cooperation agreement; during congressional review, the Administration did not discuss problems at the labs.¹⁷⁷ At the 1998 summit in Beijing, DOE signed a governmental agreement on peaceful nuclear cooperation, including exchanges at the labs.¹⁷⁸ The Administration argues that lab-to-lab exchanges were not the cause of the alleged security problems.

¹⁷¹ Risen James and Jeff Gerth, "U.S. Is Said To Have Known of China Spy Link in 1995," *New York Times*, June 27, 1999.

¹⁷² Laris, Michael, "China Exploits U.S. Computer Advances," *Washington Post*, March 9, 1999.

¹⁷³ Department of Commerce, "Commerce Report: Growing Demand For U.S. High Performance Computers," press release, January 8, 1999.

¹⁷⁴ See CRS Report 98-485, *China: Possible Missile Technology Transfers From U.S. Satellite Export Policy — Background and Chronology*, by Shirley A. Kan.

¹⁷⁵ Wisconsin Project on Nuclear Arms Control, "U.S. Exports to China, 1988-1998: Fueling Proliferation," April 1999.

¹⁷⁶ President William Jefferson Clinton, speech to the U.S. Institute of Peace, at the Mayflower Hotel, Washington, D.C., April 7, 1999.

¹⁷⁷ CRS Issue Brief IB92056, *Chinese Proliferation of Weapons of Mass Destruction: Current Policy Issues*, by Shirley A. Kan.

¹⁷⁸ 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, June 29, 1998.

Criticisms of Partisanship

Still others urge policy-makers to move beyond partisan debates to urgently upgrade U.S. security at the labs, assess the potential damage from China's reported compromise of U.S. secrets, and take corrective action. They also caution against partisan attacks in this case that might damage broader and long-term U.S.-China relations that are in U.S. interests, such as efforts on trade and weapon nonproliferation. They point out that, as FBI Director Freeh confirmed, "great vulnerability" to intelligence compromises of security at the nuclear weapon labs has been identified since 1988, ten years prior to PDD-61. Freeh said, "unfortunately, this situation has been well documented for over ten years." Those concerns about counterintelligence at DOE included a hearing held by Senator John Glenn in 1988 and studies by the FBI, CIA, and GAO since then.¹⁷⁹

Damage Assessments

There are concerns that China's suspected acquisition of the W88 data could have increased the threat to the United States by helping China's modernization of its nuclear-armed ballistic missile force, which reportedly has included efforts to develop a miniaturized nuclear warhead and more reliable and mobile missiles, possibly with multiple independently targetable reentry vehicles (MIRVs). China is believed to have deployed over 100 nuclear warheads on its ballistic missiles, with more warheads in storage and a stockpile of fissile material.¹⁸⁰ Of those missiles, there are reportedly about 20 DF-5A strategic, long-range (13,000 km.; 8,000+ mi.) ICBMs that could reach all of the United States. China is developing a new DF-31 solid-fuel, mobile ICBM, with a range of about 5,000 miles, for deployment perhaps after 2000, reportedly with a smaller warhead (700 kg; 1,500 lb.) than the DF-5A ICBMs. In addition, there are reportedly programs to develop a next-generation JL-2 SLBM and a longer-range DF-41 ICBM.¹⁸¹

President on U.S. Superiority

On April 7, 1999, President Clinton presented a public assessment that in the U.S.-China strategic balance, U.S. nuclear forces still maintain decisive superiority over China's relatively limited strategic nuclear forces. He declared,

Now, we have known since the early 1980s that China has nuclear armed missiles capable of reaching the United States. Our defense posture has and will continue to take account of that reality. In part, because of our engagement, China has, at best, only marginally increased its deployed nuclear threat in the last 15 years. By

¹⁷⁹ Testimony of FBI Director Louis Freeh before the House Appropriations Subcommittee on Commerce, Justice, State, and Judiciary, March 17, 1999.

¹⁸⁰ Secretary of Defense, *Proliferation: Threat and Response*, November 1997.

¹⁸¹ See CRS Report 97-391, *China: Ballistic and Cruise Missiles*, by Shirley A. Kan; and CRS Report 97-1022, *Chinese Nuclear Testing and Warhead Development*, by Jonathan Medalia.

signing the Comprehensive Test Ban Treaty, China has accepted constraints on its ability to modernize its arsenal at a time when the nuclear balance remains overwhelmingly in our favor. China has fewer than two dozen long-range nuclear weapons today; we have over 6,000.¹⁸²

Intelligence Community's Damage Assessment

At the end of 1998, the House Select Committee on China chaired by Congressman Cox approved a report that urged, among other recommendations, that "the appropriate Executive departments and agencies should conduct a comprehensive damage assessment of the strategic implications of the security breaches that have taken place" by China at the nuclear weapon labs.¹⁸³ The Intelligence Community assessed the difficult question of how much PRC nuclear weapon designs might have benefitted if China obtained the W88 data. On this question, National Security Advisor Berger acknowledged soon after the news reports that, "there's no question they benefitted from this."¹⁸⁴

DCI George Tenet further announced on March 15, 1999, that after an interagency team completes a damage assessment by the end of March, an independent panel led by retired Admiral David Jeremiah will review the findings. The damage assessment of the Intelligence Community was completed by the end of March, and the independent panel reviewed that assessment and made recommendations for changes by early April. Some say that an independent review was needed to give the assessment greater credibility against any charges of politicization intended to protect the policy of engagement toward China and other policies. Some reports suggested that NSC official Gary Samore (in August 1997, as the White House was preparing for President Clinton's first summit with the PRC) had requested an alternative assessment from the CIA that downplayed DOE's conclusion that successful PRC espionage was primarily responsible for the leaks at Los Alamos.¹⁸⁵

The DCI briefed the final assessment to the appropriate congressional committees and the White House on April 21, 1999. Robert Walpole, the National Intelligence Officer for Strategic and Nuclear Programs, led the damage assessment, which was prepared by the CIA, DOE, Department of Defense, the Defense Intelligence Agency, the National Security Agency, the State Department's Bureau of Intelligence and Research, the FBI, the National Counterintelligence Center, and nuclear weapon experts from Los Alamos, Livermore, and Sandia labs.¹⁸⁶ After being

¹⁸² President William Jefferson Clinton, speech sponsored by the U.S. Institute for Peace at the Mayflower Hotel, Washington, D.C., April 7, 1999.

¹⁸³ National Security Council's response (unclassified version) to the House Select Committee's recommendations, February 1, 1999.

¹⁸⁴ Sandy Berger's interview on NBC's "Meet the Press," March 14, 1999.

¹⁸⁵ Risen, James and James Gerth, "China Stole Nuclear Secrets From Los Alamos, U.S. Officials Say," *New York Times*, March 6, 1999.

¹⁸⁶ CIA, "The Intelligence Community Damage Assessment On the Implications of China's
(continued...)

briefed on the Intelligence Community's damage assessment on April 21, 1999, President Clinton said that he has further asked the National Counterintelligence Policy Board to assess potential vulnerabilities at nuclear weapon institutions other than the national labs.¹⁸⁷

According to the unclassified key findings released by the DCI, the Intelligence Community's damage assessment, with concurrence by the independent panel, confirmed that "China obtained by espionage classified U.S. nuclear weapons information that probably accelerated its program to develop future nuclear weapons." That successful PRC espionage effort, which dates back to at least the late 1970s, benefitted PRC nuclear weapon design program by allowing China to "focus successfully down critical paths and avoid less promising approaches to nuclear weapon designs." Furthermore, the assessment found that China obtained "basic design information on several modern U.S. nuclear reentry vehicles, including the Trident II" that delivers the W88 warhead as well as "a variety of U.S. weapon design concepts and weaponization features, including those of the neutron bomb." The information on U.S. nuclear weapons has made an "important contribution" to PRC efforts to maintain a second strike capability and develop future nuclear weapon designs. However, it is uncertain whether China obtained documentation or blueprints, and China also benefitted from information obtained from a wide variety of sources, including open sources (unclassified information) and China's own efforts. The assessment also states that the PRC has not demonstrated any "apparent modernization" of the deployed strategic force or any new nuclear weapons deployment. (China has not conducted nuclear tests since July 1996.) The assessment also confirmed that China has the "technical capability" to develop a MIRV system for the currently deployed ICBM, but has not done so. Nonetheless, U.S. intelligence reported that "U.S. information acquired by the Chinese could help them develop a MIRV for a future mobile missile."

On the continuing need for effective counterintelligence and intelligence, the assessment confirms that, even today, the PRC is using "aggressive collection efforts" directed at U.S. nuclear weapon secrets in order to fill significant gaps in China's programs. Adding further to questions about possible politicization and erosion of expertise in the Intelligence Community, the independent review panel warned that the Intelligence Community has "too little depth." The panel also added that multiple countries "have gained access to classified U.S. information on a variety of subjects for decades, through espionage, leaks, or other venues," and such losses are "much more significant" in today's context of diminished U.S. research efforts intended to ensure a "protective edge" over those countries using U.S. information.

¹⁸⁶ (...continued)

Acquisition of U.S. Nuclear Weapons Information On the Development of Future Chinese Weapons," (unclassified release), April 21, 1999.

¹⁸⁷ Statement by the President, April 21, 1999.

Cox Committee's Report

Findings. According to its declassified report released in May 1999,¹⁸⁸ the Cox Committee reported that, since the late 1970s and "almost certainly" continuing today, the PRC has pursued intelligence collection that includes not only espionage, but also review of unclassified publications and interaction with U.S. scientists at the DOE's national laboratories, including Los Alamos, Lawrence Livermore, Oak Ridge, and Sandia. The PRC has "stolen" classified information on the most advanced U.S. thermonuclear weapons, giving the PRC design information on thermonuclear weapons "on a par with our own." The information includes classified information on seven warheads, including "every currently deployed thermonuclear warhead in the U.S. ballistic missile arsenal;" on the neutron bomb; and on "a number of" reentry vehicles of U.S. missiles. The PRC acquired information on seven U.S. nuclear warheads, including the W88, the most advanced, miniature U.S. nuclear warhead deployed on the Trident D-5 submarine-launched ballistic missile (SLBM):

- W88: deployed on the Trident D-5 submarine-launched ballistic missile (SLBM)
- W87: deployed on the Peacekeeper intercontinental ballistic missile (ICBM)
- W78: deployed on the Minuteman III ICBM
- W76: deployed on the Trident C-4 SLBM
- W70: previously deployed on the Lance short-range ballistic missile (SRBM)
- W62: deployed on the Minuteman III ICBM
- W56: previously deployed on the Minuteman II ICBM.

The committee focused on potential implications for U.S. national security, judging "that the PRC will exploit elements of the U.S. design information on the PRC's next generation of thermonuclear weapons." The PRC successfully tested smaller thermonuclear warheads in 1992 to 1996¹⁸⁹ (prior to its July 1996 announcement of a nuclear testing moratorium and its September 1996 signing of the Comprehensive Test Ban Treaty (CTBT)). The committee reported that information lost from the DOE labs accelerated PRC nuclear weapon modernization and "helped the PRC in its efforts to fabricate and successfully test its next generation of nuclear weapons designs. These warheads give the PRC small, modern thermonuclear warheads roughly equivalent to current U.S. warhead yields." The PRC "could begin serial production" of such weapons during the next decade in connection with the development of its next generation of solid-fuel mobile ICBMs, including the DF-31 that "may be tested in 1999" and "could be deployed as soon as 2002." Although the PRC currently deploys nuclear-armed ICBMs, "with stolen U.S. technology, the PRC has leaped, in a handful of years, from 1950s-era strategic nuclear capabilities to the more modern thermonuclear weapons designs." Regarding whether the PRC's nuclear program continues to require testing, the committee judged that if the PRC

¹⁸⁸ Select Committee, U.S. House of Representatives, H.Rept. 105-851, *U.S. National Security and Military/Commercial Concerns with the People's Republic of China*, (classified report issued on January 3, 1999; declassified version issued on May 25, 1999); See also: CRS Report RL30220, *China's Technology Acquisitions: Cox Committee's Report — Findings, Issues, and Recommendations*, June 8, 1999, by Shirley A. Kan.

¹⁸⁹ For information, see CRS Report 97-1022, *Chinese Nuclear Testing and Warhead Development*, by Jonathan Medalia.

successfully steals U.S. nuclear test codes, computer models, and data, and uses them with the U.S. HPCs already imported, the PRC "could diminish its need for further nuclear testing to evaluate weapons and proposed design changes."

As for the strategic balance, the report noted that "the United States retains an overwhelming qualitative and quantitative advantage in deployed strategic nuclear forces" over the PRC's up to two dozen CSS-4 ICBMs. Nonetheless, the report stated that "in a crisis in which the United States confronts the PRC's conventional and nuclear forces at the regional level, a modernized PRC strategic nuclear ballistic missile force would pose a credible direct threat against the United States."

On the question of whether having smaller nuclear warheads would facilitate PRC development of multiple independently targetable reentry vehicles (MIRVs) for its nuclear missile force, the committee reported that it had "no information on whether the PRC currently intends to develop and deploy" MIRVs.

A complicating factor is that, as the committee revealed, the CIA obtained, in 1995 someplace outside of the PRC, a secret PRC document containing "design information" on the W88 and "technical information" on another five U.S. thermonuclear warheads from a "walk-in" directed by PRC intelligence. The "walk-in" volunteered various materials to the CIA and to Taiwan, according to Representative Cox.¹⁹⁰ There are questions about the credibility and motivation of the "walk-in" who provided documents showing PRC possession of U.S. nuclear weapon secrets. As the Cox report noted, "there is speculation as to the PRC's motives for advertising to the United States the state of its nuclear weapons development." PRC intelligence could have sought to raise the credibility of the "walk-in;" increase the credibility of China's nuclear arsenal as a deterrent to U.S. intervention in a regional crisis; trigger a disruptive "spy hunt" in the United States; or raise suspicions of PRC students working in the United States to bring them back to China.¹⁹¹ Also, China could have made a major blunder or had another unknown objective. In addition, a rival of the PRC could have planted the documents in Taiwan,¹⁹² or the "walk-in" could have sold them in self-interest. In any case, as the Cox report said, PRC nuclear tests conducted from 1992 to 1996 had already raised suspicions in U.S. intelligence that China had stolen U.S. nuclear weapon information, and the information provided by the "walk-in" in 1995 "definitely confirmed" those suspicions.

Prather Report. A report by a nuclear physicist Gordon Prather, released by Jack Kemp on July 8, 1999, questioned the Cox Report's findings about PRC espionage, but criticized the Clinton Administration (particularly former Energy Secretary Hazel O'Leary) for its policies. Prather cited three policies as responsible for security problems at the labs: support for the CTBT; a "reckless policy" of unprecedented "openness" that declassified much nuclear weapon information, so that

¹⁹⁰ Pincus, Walter, "Prescriptions for Keeping Secrets," *Washington Post*, May 27, 1999.

¹⁹¹ Loeb, Vernon and Walter Pincus, "Planted Document Sows Seeds of Doubt," *Washington Post*, May 28, 1999.

¹⁹² Weiner, Tim, "Nuclear Thriller With Ending As Yet Unwritten," *New York Times*, May 25, 1999.

spying is unnecessary; and engaging the PRC nuclear weapon establishment with the DOE's lab-to-lab exchanges.¹⁹³

China Confirmed Its Neutron Bomb. On July 15, 1999, the PRC government issued a response denying the Cox Committee's charges that China stole U.S. secrets. In the report was a short paragraph acknowledging that China has the neutron bomb. The statement said China mastered "in succession the neutron bomb technology and nuclear weapon miniaturization technology." In addition, "since China has already possessed atom bomb and H-bomb technologies, it is quite logical and natural for it to master the neutron bomb technology through its own efforts over a reasonable period of time."¹⁹⁴

PFIAB (Rudman) Report

For a parallel review, on March 18, 1999, President Clinton appointed former Senator Warren Rudman, head of the President's Foreign Intelligence Advisory Board (PFIAB), to undertake a review of how the government has handled security challenges at the labs over the last 20 years. The PFIAB's special investigative panel, with four members, reviewed over 700 documents and interviewed over 100 witnesses — who apparently had concerns about reprisals and asked that they not be named. On June 15, 1999, the PFIAB issued an unprecedented unclassified report, with findings and recommendations for both the Executive and Legislative branches.¹⁹⁵ These findings and recommendations are summarized below.

Findings.

- Twenty years after the creation of DOE, most of its security problems "still exist today."
- The national weapons labs "have been and will continue to be a major target of foreign intelligence services, friendly as well as hostile."
- "Organizational disarray, managerial neglect, and a culture of arrogance — both at DOE headquarters and the labs themselves — conspired to create an espionage scandal waiting to happen."
- "Increasingly nimble, discreet, and transparent in their spying methods, the Chinese services have become very proficient in the art of seemingly innocuous elicitations of information. This modus operandi has proved very effective against unwitting and ill-prepared DOE personnel."

¹⁹³ Prather, James Gordon, "A Technical Reassessment of the Conclusions and Implications of the Cox Committee's Report," July 8, 1999. See also: Jack Kemp's press release, July 8, 1999, and Robert D. Novak, "Republican China-Bashing," *Washington Post*, July 12, 1999. For copies of report, contact Jack Kemp's office or Home Page of Polyconomics, Inc.

¹⁹⁴ PRC, Information Office of the State Council, "Facts Speak Louder Than Words and Lies Will Collapse by Themselves — Further Refutation of the Cox Report," July 15, 1999.

¹⁹⁵ President's Foreign Intelligence Advisory Board, Special Investigative Panel, *Science at its Best, Security at its Worst: A Report on Security Problems at the U.S. Department of Energy*, unclassified, June 1999.

- “Both Congressional and Executive Branch leaders have resorted to simplification and hyperbole in the past few months. The panel found neither the dramatic damage assessments nor the categorical reassurances of the Department’s advocates to be wholly substantiated.”
- “We concur with and encourage many of Secretary Richardson’s recent initiatives to address the security problems. . . .”
- Energy Secretary Richardson “overstated the case when he asserts, as he did several weeks ago, that ‘Americans can be reassured: our nation’s nuclear secrets are, today, safe and secure’.”
- Both intelligence officials at DOE and the Cox Committee “made substantial and constructive contributions to understanding and resolving security problems at DOE. . . we concur on balance with the damage assessment of the espionage losses conducted by the Director of Central Intelligence. We also concur with the findings of the independent review of that assessment by Admiral David Jeremiah and his panel.”
- “On one end of the spectrum is the view that the Chinese have acquired very little classified information and can do little with it. On the other end is the view that the Chinese have nearly duplicated the W88 warhead. . . . None of these extreme views holds water. . . . The most accurate assessment . . . is presented in the April 1999 Intelligence Community Damage Assessment.”
- “Despite widely publicized assertions of wholesale losses of nuclear weapons technology from specific laboratories to particular nations, the factual record in the majority of cases regarding the DOE weapons laboratories supports plausible inferences — but not irrefutable proof — about the source and scope of espionage and the channels through which recipient nations received information.”
- “Particularly egregious have been the failures to enforce cyber-security measures. . . .”
- “Never before has the panel found an agency with the bureaucratic insolence to dispute, delay, and resist implementation of a Presidential directive on security, as DOE’s bureaucracy tried to do” to PDD-61 in February 1998.
- DOE is “incapable of reforming itself — bureaucratically and culturally — in a lasting way, even under an activist Secretary.”

Recommendations.

- “Reorganization is clearly warranted.” Two alternative solutions for a new Agency for Nuclear Stewardship (ANS) to be established by statute:
 1. A new semi-autonomous agency with DOE (similar to the National Security Agency (NSA), Defense Advanced Research Projects Agency (DARPA) or the National Oceanographic and Atmospheric Administration (NOAA)) reporting directly to the Secretary of Energy.

2. An independent agency (similar to the National Aeronautics and Space Administration (NASA)) reporting directly to the President.

- “The labs should never be subordinated to the Department of Defense.”
- “DOE cannot be fixed with a single legislative act. . . Congress and the executive branch . . . should be prepared to monitor the progress of the Department’s reforms for years to come.”
- “The Foreign Visitors’ and Assignments Program has been and should continue to be a valuable contribution to the scientific and technological progress of the nation.”
- “Abolish the Office of Energy Intelligence.”
- “Congress should abolish its current oversight system for national weapons labs” with about 15 competing committees. The report recommends a new Joint Committee for Congressional Oversight of ANS/Labs.

Stanford Critique

In December 1999, four scholars at Stanford University’s Center for International Security and Cooperation issued their critique of the Cox Committee’s unclassified report.¹⁹⁶ In the section on nuclear weapons, W. K. H. Panofsky found that the Cox Committee’s report “makes largely unsupported allegations about theft of nuclear weapons information, but the impact of losses is either greatly overstated or not stated at all.” Further, the author wrote that “there is no way to judge the extent, should China field a new generation of thermonuclear weapons, of the benefit derived from publicly available knowledge, indigenous design efforts, and clandestinely obtained information.” Panofsky also doubted the Cox Committee’s assertion that stolen U.S. nuclear secrets give the PRC design information on thermonuclear weapons on par with our own.

The Senate Intelligence Committee’s staff director, Nicholas Rostow, (formerly the deputy staff director of and counsel to the Cox Committee) issued a response to the critique by the group at Stanford.¹⁹⁷ He maintained that the Cox Committee report “is valuable” and “factually accurate.” He explained that “the important findings of the Select Committee are almost all based on classified information.” He assessed the critique as “an attempt to foster debate and to reiterate the authors’ views on U.S. relations with the People’s Republic of China.”

¹⁹⁶ Johnston, Alastair Iain, W. K. H. Panofsky, Marco Di Capua, and Lewis R. Franklin, (edited by M. M. May), “The Cox Committee Report: An Assessment,” December 1999.

¹⁹⁷ Rostow, Nicholas, “The ‘Panofsky’ Critique and the Cox Committee Report: 50 Factual Errors in the Four Essays,” December 1999.

Implications for U.S. Policy

Counterintelligence and Laboratory Security¹⁹⁸

The Los Alamos incident has led to several reassessments. As noted above, the Intelligence Community is undertaking an assessment of potential damage to national security from possible leaks of nuclear weapons secrets, and DCI George Tenet has asked retired Admiral David Jeremiah, former Vice Chairman of the Joint Chiefs of Staff, to review the in-house effort. In addition to the PFIAB's review mentioned above, several congressional committees will be undertaking their own investigations. These reviews may become parts of a larger assessment of U.S. counterintelligence capabilities; in May 1998 the Senate Intelligence Committee had expressed its concerns about the FBI's failure to address technological challenges relating to information systems modernization and criticized the Defense Department's substantial reductions in the resources devoted to counterintelligence.¹⁹⁹

Administration spokesmen point to a concerted counterintelligence effort already underway. In response to the revelations of spying for the Soviet Union by CIA official Aldrich Ames, a Presidential Decision Directive signed in May 1994 placed the policy and coordinating machinery of counterintelligence in the hands of the NSC and created a National Counterintelligence Policy Board composed of representatives of the principal law enforcement and intelligence agencies, reporting to the National Security Advisor. The Board was subsequently given a statutory charter in the FY1995 Intelligence Authorization Act (P.L. 103-359).²⁰⁰

A major goal in establishing the Counterintelligence Policy Board was coordination of CIA and FBI efforts with a focus on counterintelligence at intelligence agencies; concerns about Energy Department laboratories were not publicly discussed in 1994. It is generally agreed that coordination among law enforcement and intelligence agencies has improved in recent years. As a result, however, of concerns dating at least from 1995 that China may have acquired sensitive information from Los Alamos, PDD-61 was issued in February 1998, mandating a stronger counterintelligence program within DOE laboratories. According to Energy Secretary Richardson, steps taken in response to PDD-61 have included new counterintelligence professionals based at the laboratories, a doubling of the budget for counterintelligence, a new screening and approval process for foreign scientists seeking access to the laboratories, and more extensive security reviews — including the use of polygraphs — for scientists working in sensitive programs.²⁰¹

¹⁹⁸ Prepared by Richard A. Best, Jr., Specialist in National Defense.

¹⁹⁹ U.S. Congress, 105th Congress, 2d session, Senate, Select Committee on Intelligence, *Authorizing Appropriations for Fiscal Year 1999 for the Intelligence Activities of the United States Government and the Central Intelligence Agency Retirement and Disability System and for Other Purposes*, S.Rept. 105-185, May 7, 1998, pp. 4-6.

²⁰⁰ 108 Stat. 3455-3456.

²⁰¹ Bill Richardson, "Guarding Our Nuclear Security," *Washington Post*, March 15, 1999, p. A17.

Secretary Richardson indicates that additional measures are under consideration, and there appears to be a widespread conviction that security at the laboratories needs to be tightened to minimize the possibility of leaks of sensitive weapons-related information. Some observers caution however that, given the nature of the mission of the laboratories, it is unlikely that conditions of tight secrecy such as existed during World War II can be reestablished (and even that secrecy was effectively penetrated by Soviet agents).²⁰² They argue that scientific researchers at Los Alamos and the other laboratories expect and depend on a relatively free flow of information with their counterparts throughout the world. There is a perceived need to engage scientists and other technical experts from other countries in the effort to detect and limit the spread of nuclear technology and weaponry. Such engagement, they argue, depends on the development of good working relationships with their counterparts and visits to U.S. research facilities.²⁰³

A matter of interest for Members is the reporting of potential counterintelligence concerns to congressional committees. Annual reports of potential disclosures of classified information to foreign powers are required by statute to be made to congressional committees — the two intelligence and the two judiciary committees — by the Director of the FBI in consultation with the DCI.²⁰⁴ Less formal venues for reporting to oversight committees are also available. Details of this reporting would inevitably be classified. There appear to be differences of opinion regarding the extent and adequacy of congressional notification regarding the potential problems at Los Alamos.²⁰⁵

Nuclear Nonproliferation and Lab Exchanges

In addition to questions about PRC weapon designs, there are implications for U.S. policy posed by China possibly passing U.S. nuclear weapon secrets to other countries. As discussed above, in the late 1970s to 1980s, the PRC reportedly acquired U.S. data on the neutron bomb from Livermore and passed it to Pakistan. The United States and other countries have been concerned about PRC nuclear proliferation, especially in Pakistan and Iran.²⁰⁶ Advanced U.S. warheads have features of value to would-be nuclear weapon states. These features might permit a nation to develop more efficient warheads, in which case it could build more bombs

²⁰² On successful Soviet efforts to obtain information from Los Alamos, see Joseph Albright and Marcia Kunstel, *Bombshell: The Secret Story of America's Unknown Spy Conspiracy* (New York: Random House, 1997); Robert Louis Benson and Michael Warner, eds., *Venona: Soviet Espionage and the American Response, 1939-1957* (Washington: National Security Agency and Central Intelligence Agency, 1996).

²⁰³ See Siegfried S. Hecker [a former director of the Los Alamos Laboratory], "Between Science and Security: At Los Alamos, Risk Comes with the Territory," *Washington Post*, March 21, 1999, p. B1.

²⁰⁴ 108 Stat. 3456.

²⁰⁵ See William Safire (quoting Representative Cox), "Of Nukes & Spooks," *New York Times*, March 15, 1999, p. A25.

²⁰⁶ See CRS Issue Brief IB92056, *Chinese Proliferation of Weapons of Mass Destruction: Current Policy Issues*, by Shirley A. Kan.

with its supply of uranium or plutonium. They might solve engineering problems or suggest production shortcuts. If China passed U.S. nuclear weapon information to another country, it could develop and deploy a more potent nuclear force faster.

The CIA's damage assessment, that was briefed to Congress and the Administration on April 21, 1999, cited a greater concern for nuclear proliferation. It acknowledged that China could pass U.S. nuclear weapon secrets to other countries, although it is not known whether China has done so. The assessment cautioned that, now that the PRC has more modern U.S. nuclear weapon information, they "might be less concerned about sharing their older technology."²⁰⁷

India or another country concerned about the advancement of PRC nuclear weapons might pursue further development of nuclear weapons and the missiles to deliver them in response to reports that China may have acquired designs for the W88. Citing security concerns about China, India conducted several nuclear tests in May 1998 and has not signed the CTBT.

Citing concerns about nuclear proliferation, Members looked at curtailing the U.S.-China lab-to-lab program that the Clinton Administration initiated in July 1994 and formalized in a June 1998 official agreement. Leading a delegation to the Los Alamos National Lab, Senator Shelby, Chairman of the Intelligence Committee, is quoted as saying on April 12, 1999, that a "tourniquet" needs to be placed on the "hemorrhaging" of bomb secrets to foreign countries.²⁰⁸ If there are security gaps at the labs stemming from foreign exchanges, Congress may want to ensure that adequate counterintelligence measures are in place. (See Legislation above.)

The Intelligence Community's April 1999 damage assessment states concerns, highlighted by some, about PRC "technical advances" based on contact with scientists from the United States and other countries, among a variety of sources of information. (Other countries may include Russia.) The review panel's note on the damage assessment also warned of the dangers of exchanges between U.S. and PRC or Russian nuclear weapon specialists, urging that a separate net assessment be done on such formal and informal contacts. Yet, the panel also noted that "the value of these contacts to the U.S., including to address issues of concern — safety, command and control, and proliferation — should not be lost in our concern about protecting secrets."

Another report on PRC espionage included warnings about exchanges at the labs. According the CIA and FBI's 1999 unclassified report, "PRC scientists, through

²⁰⁷ CIA, "The Intelligence Community Damage Assessment On the Implications of China's Acquisition of U.S. Nuclear Weapons Information On the Development of Future Chinese Weapons," (unclassified release), April 21, 1999.

²⁰⁸ Brooke, James, "Senator Tells Nuclear Bomb Labs To End Foreign Scientists' Visits," *New York Times*, April 13, 1999.

mutually beneficial scientific exchange programs, gather [science and technology] information through U.S. national laboratories.”²⁰⁹

China’s nuclear weapon facilities include the China Academy of Engineering Physics (CAEP), also known as the Ninth Academy, at Mianyang, Sichuan province; Institute of Applied Physics and Computational Mathematics (IAPCM), in Beijing; High Power Laser Laboratory, in Shanghai; and Northwest Institute of Nuclear Technology (NINT), near Xian.²¹⁰ China’s nuclear weapon installations have been in transition since a reorganization of the defense industrial sector in the spring of 1998 that included the civilianization of the Commission of Science, Technology, and Industry for National Defense (COSTIND) solely under the State Council. PRC nuclear weapon facilities may now be partly or fully subordinate to the Chinese military’s new General Equipment Department set up in April 1998 to centralize and improve control over research and development, production, and deployment of weapons.

Placing restrictions on the foreign visitor program, however, may have implications for U.S. policy on arms control and nonproliferation. The Administration argues that foreign exchanges have not compromised U.S. security and have not involved weapon secrets. Moreover, contacts with foreign nuclear scientists allow U.S. nuclear weapon labs to learn about the secretive nuclear weapon establishment in China – especially as it is undergoing changes. In October 1998, John Browne, Director of Los Alamos, testified that “access to classified information by foreign nationals is not allowed” in DOE’s foreign visitor program.²¹¹ The Administration says that engagement of PRC and other scientists fosters support for arms control and nonproliferation objectives as well as advances U.S. interests in making sure that foreign nuclear powers have sufficient control over nuclear materials so that they are not leaked to rogue states.²¹² The former Director of Los Alamos argues that “any contact with China’s nuclear weapons establishment needed to be clearly focused to avoid aiding their weapons program. Hence, the Department of Energy authorized only small, restricted interactions on nuclear materials protection and verification technologies for arms control treaties. These activities were and still are clearly in our

²⁰⁹ CIA and FBI, “Report to Congress on Chinese Espionage Activities Against the United States,” December 1999, released March 8, 2000.

²¹⁰ Department of Commerce, “Entity List, Entities of Proliferation Concern Listed in Supplement No. 4 to Part 744 of the Export Administration Regulations,” updated November 19, 1998; Defense Intelligence Agency, Defense Intelligence Reference Document DI-1921-60A-98, “China’s International Defense-Industrial Organizations,” June 1998; Conference at the Monterey Institute of International Studies, November 1997.

²¹¹ 105th Congress, Hearing of the House National Security Subcommittee on Military Procurement, “Department of Energy’s Foreign Visitor Program,” October 6, 1998.

²¹² Prindle, Nancy, “The U.S.-China Lab-to-Lab Technical Exchange Program,” *Nonproliferation Review*, Spring-Summer 1998; Wen L. Hsu, “The Impact of Government Restructuring on Chinese Nuclear Arms Control and Nonproliferation Policymaking,” *Nonproliferation Review*, Fall 1999.

national security interest.”²¹³ Testifying before the Cox Committee in October 1998, C. Paul Robinson, director of Sandia, stated that “the lab-to-lab program with China has been beneficial in several ways. It provides the United States with perhaps its only window on the Chinese nuclear weapons program. . . . Moreover, the program has helped promote the establishment of an arms control program in China.”²¹⁴

U.S.-China Relations

The disclosures about suspected PRC espionage at the U.S. labs have further complicated the Administration’s policy of engagement with China. Vice President Gore said on March 9, 1999, that “having a relationship with [the Chinese] within which we can try to affect their behavior and improve human rights, eliminate unfair trade practices, and bring about the kinds of changes that will lead to further democratization in China, these things are in our interest.”²¹⁵ On March 11, 1999, President Clinton first defended his policy against charges of laxity in dealing with China and asserted that engagement “has paid dividends” for U.S. interests in weapon nonproliferation, Korea, and the Asian financial crisis. He also argued against an “isolated no-contact” relationship with Beijing.²¹⁶ In a major speech on China policy on the eve of PRC Premier Zhu Rongji’s visit, President Clinton again explained that seeking to resolve differences with China cannot be achieved “by confronting China or trying to contain her,” but through a “policy of principled, purposeful engagement with China’s leaders and China’s people.”²¹⁷

Some critics have charged that the W88 case shows that engagement has not adequately protected U.S. national interests, and a more confrontational policy — some call containment — should be pursued. They have said that the credibility of the White House on China policy has been further eroded and that engagement has brought more harm than benefits to U.S. interests. Senator Helms wrote on July 8, 1999, that the Cox Report presented “damning disclosures on the Clinton Administration’s ‘engagement’ policy toward Beijing” and urged a “fundamental reassessment” of U.S. policy toward China.²¹⁸

Still other critics have pointed out that PRC espionage and the Chinese military has and will continue to challenge U.S. interests and the question is not whether the

²¹³ Hecker, Siegfried S., “Between Science and Security,” *Washington Post*, March 21, 1999.

²¹⁴ Statement of C. Paul Robinson, U.S. House of Representatives Select Committee on U.S. National Security and Military/Commercial Concerns with the People’s Republic of China, October 14, 1998.

²¹⁵ Harris, John F. and Walter Pincus, “Gore Defends U.S. Stance On China, Security Issues,” *Washington Post*, March 10, 1999.

²¹⁶ President William Jefferson Clinton, remarks at the signing ceremony and summit closing in Guatemala, March 11, 1999.

²¹⁷ President William Jefferson Clinton, speech sponsored by the U.S. Institute of Peace, April 7, 1999.

²¹⁸ Helms, Jesse, “‘Engagement’ With China Doesn’t Work. Now What?” *Wall Street Journal*, July 8, 1999.

United States needs to remain engaged with China — as the President has said, but how that long-standing policy of engagement is carried out by the Clinton Administration. According to them, engagement — but with a tougher approach — is still the most appropriate policy at this time. For example, James Lilley, former ambassador and CIA station chief in China, argued, PRC spying and American spying will continue, but exposing PRC espionage “should not derail our relationship with China.”²¹⁹

Concerns over PRC nuclear espionage have spurred even some supporters of engagement to criticize the Clinton White House’s pursuit of what it calls a “constructive strategic partnership” with China.²²⁰ Henry Kissinger, credited in part with the opening to China, wrote that “a sustainable Sino-American relationship requires something beyond presidential invocations of ‘engagement’ that imply that contact between the two societies will automatically remove all latent tensions, or of a ‘strategic partnership’ whose content is never defined.”²²¹

Besides the immediate concerns about lab-to-lab exchanges, this W88 case also has ramifications for other aspects of the relationship with China. In March 1999, Representatives Gilman and Rohrabacher wrote letters to Defense Secretary William Cohen questioning exchanges with the People’s Liberation Army (PLA).²²² The Pentagon has pursued military-to-military ties with the PLA as a means to deter PRC provocations, increase mutual understanding, and expand relations with important leaders in China. Some observers are also concerned that a worsened political atmosphere could affect trade relations, including judgments about whether it is appropriate for the United States to support China’s entry into the World Trade Organization.

²¹⁹ Lilley, James R., “Blame Clinton, Not China For The Lapse At Los Alamos,” *Wall Street Journal*, March 17, 1999.

²²⁰ Notably, the Secretary of Defense’s November 1998 East Asia Strategy Report does not use the term.

²²¹ Kissinger, Henry, “Single-Issue Diplomacy Won’t Work,” *Washington Post*, April 27, 1999.

²²² Representative Rohrabacher, letter to Secretary Cohen, March 18, 1999; Bill Gertz, “General Postpones China Trip,” *Washington Times*, March 22, 1999.

