China: Possible Missile Technology Transfers
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NUMBER: 98-485 F
TITLE: China: Possible Missile Technology Transfers from U.S. Satellite Export Policy - Background and Chronology
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DIVISION: Foreign Affairs and National Defense Division
DATE: Updated June 12, 1998
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Summary

Members of Congress are concerned about whether U.S. firms have provided expertise to China for use in its ballistic missile program and whether a series of decisions by the Clinton Administration on satellite exports have facilitated legal or illegal transfers of missile-related technology to China. The New York Times reported in April 1998 that the Justice Department is conducting an ongoing criminal investigation into whether Loral Space and Communications and Hughes Electronics violated export control laws. The firms are alleged to have shared their findings with China on the cause of a Chinese 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 ballistic missiles, including their guidance systems. The news report cited a classified report in the Pentagon that concluded in May 1997 that as a result of the transfer of expertise to China's missile program, "United States national security has been harmed." In addition, the press reports alleged that President Clinton in February 1998 issued a waiver for sanctions 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 personal donor to the Democratic National Committee for the 1996 election.

Loral issued a statement on May 18, 1998, denying allegations that it provided missile guidance technology to China. Loral denied that it and Hughes conducted an independent investigation to determine the cause of that launch failure. However, the company acknowledged that it formed a committee of several satellite companies, including Hughes, to review the Chinese investigation and that, contrary to

its policies, "the committee provided a report to the Chinese before consulting with State Department export licensing authorities." The Administration argues that export controls and strict security measures prevent inappropriate technology transfers to China's ballistic missile program. Administration officials say that export licensing procedures and strict security measures (including escorts of satellites
by U.S. military officers prior to launch) preclude any assistance to the design, development, operation, maintenance, modification, or repair of any launch facility or rocket in China. Moreover, effective
export controls on dual-use technology (with military and civilian applications) allow U.S. exporters to compete while protecting U.S. security interests. Officials have publicly disputed that there were objections within the executive branch to allowing recent satellite exports to China.

This CRS report provides detailed background information 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, including missile nonproliferation, export controls on technology useful for missiles and/or satellites, and Presidential waivers of sanctions imposed on China after the Tiananmen crackdown.

Introduction

Members of Congress are concerned about allegations that U.S. firms provided expertise to China that could be used in its ballistic missile program and that a series of decisions by the Clinton Administration on satellite exports have facilitated legal or illegal transfers of missile-related technology to China. The New York Times reported in April 1998 that the Justice Department is conducting an ongoing criminal investigation into whether Loral Space and Communications (of New York), and Hughes Electronics (of Los Angeles) violated export control laws. (See Endnote 1.) The firms are alleged to have shared their findings with China, without approval from the U.S. government, on the cause of a Chinese 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 ballistic missiles, including their guidance systems. A classified report at the Department of Defense's Defense Technology Security Administration (DTSA) reportedly concluded in May 1997 that Loral and Hughes transferred expertise to China that significantly enhanced the reliability of its nuclear ballistic missiles and "United States national security has been harmed."

In addition, the media reports allege 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 are alleged to have influenced the Administration's decision, since Loral's chairman was the largest personal donor to the Democratic Party in 1996.

This CRS report provides detailed background information 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:

Presidential waivers for exports of satellites, including the latest waiver for Chinasat-8 (built by Loral) during an ongoing criminal investigation into alleged assistance by Loral and Hughes to China's missile program; waivers are for sanctions imposed after China's Tiananmen Square crackdown;
sanctions imposed for missile proliferation by China's space launch company, China Great Wall Industry Corporation;
quotas on Chinese launches of satellites;
controls on exports of U.S.-origin satellites and/or satellite technology;
export controls to prevent technology transfers that could contribute to China's ballistic missile force and/or military satellites.

Background

China Great Wall Industry Corporation

China Great Wall Industry Corporation (CGWIC) has been China's space launch company since 1986. It is a state-owned corporation in China's defense-related aerospace industry. CGWIC belongs to the China Aerospace Corporation (CASC), which oversees China's space and missile research and development establishment. It develops strategic and tactical ballistic missiles, space launch vehicles, surface-to-air missiles, cruise missiles, and military (reconnaissance, communications, or other) and civilian satellites. CGWIC uses the Long March series of rockets to launch satellites. The Long March boosters are also produced as China's DF-4 and DF-5A intercontinental ballistic missiles (ICBM) deployed in the Second Artillery, the strategic missile force of the People's Liberation Army (PLA), China's military. (See Endnote 2.) China's launch facilities, such as the Xichang Satellite Launching Center in southwestern Sichuan province, are at PLA bases.

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. (See Endnote 3.) On April 7, 1990, the China Great Wall Industry Corporation launched a foreign satellite, Asiasat, for the first time. (See Endnote 4.) 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. For example, the president of the Chinese Academy of Space Technology said that the Chinese 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. (See Endnote 5.)

China has experienced a number of embarrassing and costly failed satellite launches. In 1992, a Chinese 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 Chinese rocket exploded and destroyed the Intelsat satellite (built by Loral). Aside from the dramatic explosions, other problems have prevented the Chinese 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 expressing 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 been requested by insurance companies and satellite manufacturers to share information about problems in Chinese rockets to show that the problems were being solved.

Missile Technology or Expertise

Critics say that allowing China to launch U.S.-origin satellites indirectly subsidizes and assists Chinese military aerospace research and development efforts, because the technology used in launching satellites can be used in ballistic missiles. Henry Sokolski (Executive Director of the Nonproliferation Policy Education Center and a Defense official in the Bush Administration) writes that "intangible technology" is critical to the timely, reliable, and accurate placement of 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, or smart dispensers, can be used as multiple-warhead dispensers, thus assisting China's reported efforts to develop a capability in multiple independently targeted reentry vehicles (MIRVs) for its ICBMs. (See Endnote 6.) China has used such dispensers to launch multiple satellites for Iridium. In the case of Loral's alleged assistance to China in 1996, the company may have concurred with or identified problems with the Long March rockets in reviewing the cause of the February 1996 explosion.

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-Chinese confirmation of resolutions of problems with Long March rockets, Loral formed a committee of several satellite companies, including Hughes, to review the Chinese investigation. According to Loral, the review committee obtained information from the Chinese

and was not formed to help them solve their problems. The review agreed with the Chinese conclusion (that a defective solder joint was responsible), without performing tests or providing any test data to the Chinese. 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 engineer's can determine, the statement says, "no sensitive information no significant technology was conveyed to the Chinese."

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 escorts of satellites by U.S. military officers prior to launch) 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, it is unclear whether the Justice Department was among those agencies that concurred in issuing the export licenses. The New York Times alleges that the Justice Department strongly opposed the President's approval and waiver, in February 1998, for the export of a Loral-built satellite. Finally, there is little public information on the export licenses issued by the State Department for technical assistance agreements (TAAs) concerning the transfer of data needed to mate satellites to launch vehicles, and other technical assistance.

Sanctions

CGWIC 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 Chinese 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. 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 Chinese aerospace corporations: CGWIC 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 had to impose similar sanctions on August 24, 1993, after China was again determined to have transferred M-11 related equipment to Pakistan. A total of 11 Chinese defense industrial companies were sanctioned, including CGWIC again. Beginning in 1993, the U.S. aerospace industry and aerospace company executives lobbied against sanctions and for expansion of satellite exports to China. 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 Clinton Administration waived those sanctions. (See Endnote 7.)

Waivers (See Endnote 8.)

Since sanctions were imposed after the Tiananmen crackdown in 1989, Presidents Bush and Clinton have issued at least 13 waivers for 20 satellite projects (each project may involve more than one satellite), on a case-by-case basis, to allow the export to China of U.S.-origin satellites or components (for foreign satellites) subject to export controls. (See the Table below.) Since they were first granted, Presidential 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; other waivers simply referred to section 902 or 902(a). The 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. (See Endnote 9.)

Congressional Action

Since the early 1990s, Congress has been concerned about the implications for U.S. national security stemming from satellite exports. After the press reports in April 1998, several Congressional committees led by House Speaker Newt Gingrich and Senate Majority Leader Trent Lott began to look into the latest allegations concerning Loral and Hughes and associated actions by the Clinton Administration. These committees include: the Senate Governmental Affairs Subcommittee on International Security, Proliferation, and Federal Services; Senate Foreign Relations Committee; the Joint Economic Committee; and House Committees on Intelligence, International Relations, and National Security. The chairmen of the House International Relations and National Security Committees have requested relevant documents (including the Pentagon's report), but have reportedly faced resistance from the Administration in part because of concerns about compromising the Justice Department's ongoing criminal investigation. (See Endnote 10.) White House spokesperson, Mike McCurry, said on May 11, 1998, that "we're willing to make available whatever information they need to satisfy themselves that these decisions have been made on sound national security grounds." In addition, Speaker Gingrich announced on May 19, 1998, that he wants to create a select committee, headed by Congressman Christopher Cox, to investigate the various allegations concerning this case. A vote by the House would be needed, perhaps to be scheduled for early June.

The Joint Economic Committee held a hearing on April 28, 1998, on dual-use exports to China. The Senate Governmental Affairs Subcommittee on International Security, Proliferation, and Federal Services scheduled a hearing for May 21, 1998, to look into the applications of technology or expertise in commercial space launch for foreign satellite and ICBM programs.

The House Defense Authorization Act (H.R. 3616) includes amendments that expresses the sense of Congress that the United States should not enter into new agreements with China involving space or missile-related technology, prohibits U.S. participation in investigations of Chinese launch failures, prohibits transfers of missile technology to China, and prohibits the export or re-export of U.S. satellites to China (respectively, by Representatives Spence/Gilman, Bereuter, Hefley, and Hunter on May 19, 1998). The Senate Defense Authorization Act (S. 2057) contains several amendments expressing concern over relations with China, technology transfer, and U.S. national security interests. Of relevance to satellite export policy, one of Senator Hutchison's amendments seeks to clarify expectations for presidential waivers regarding Chinese programs.

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ENDNOTES

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