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# Weapons of Mass Destruction and China

## A Quantitative and Arms Control Analysis

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# Department of Defense Assessment of Weapons of Mass Destruction in East Asia

The strategic significance of East Asia remains substantial. Approximately 500,000 U.S. citizens live, work, and study in the region. U.S. businesses conduct more than $500 billion in trade annually and have invested more than $150 billion throughout the region. U.S. ties to Asian allies and friends include a range of security, economic, cultural, and political interests. The recent economic and financial difficulties faced by the region reinforce the importance of long-standing U.S. alliances and security relationships to maintain stability as Asia regains its economic footing and resumes its remarkable development. The historic June 2000 summit between the leaders of North and South Korea has the potential to decrease tensions on the Korean peninsula and throughout Northeast Asia. The two leaders discussed a variety of security, economic, social, and cultural issues and agreed to reunite some families separated during the Korean War. However, despite the dramatic meeting and other recent positive trends, legacies of the Cold War remain. In addition, numerous territorial disputes continue to burden the region, including the division of the Korean Peninsula, the Taiwan Strait dispute, and contested island claims among China, Japan, Russia, and North Korea in the North Pacific. Multiple national claims to territory in the South China Sea remain a potential source of conflict that could engage many of the region's nations. Additionally, leadership transitions facing many regimes in the region may have significant implications for regional stability. The United States continues to seek a stable and economically prosperous region. Strong bilateral relations with friends and allies, particularly Japan and South Korea, are the foundation of U.S. efforts to encourage regional stability. Central to this goal are the approximately 100,000 soldiers, sailors, marines, and airmen present in the region who reassure U.S. allies, deter aggression, and enhance stability. A long-term U.S. objective in the region remains the peaceful reunification of the Korean peninsula in accordance with the wishes of the Korean people. The United States, in close coordination with the Republic of Korea, will continue to maintain forces on the peninsula to safeguard mutual security interests into the foreseeable future.

Although the October 1994 Agreed Framework with North Korea over its nuclear facilities mitigated the immediate nuclear threat, Pyongyang still possesses large conventional and special operations forces, as well as militarily significant chemical weapons and the means to deliver them. Proliferation, fueled by North Korea's broad-based NBC weapons and missile programs, poses a significant challenge to U.S. security interests, as well as to those of U.S. allies and friends. North Korea's launch of a Taepo Dong 1 missile in August 1998, in a failed satellite launch, heightened public concerns throughout the region over the North Korean missile threat, and led to a variety of counterproliferation responses. North Korean NBC weapons and missile programs have potential to set off destabilizing arms races and heighten tension through-out the region and elsewhere.

In the event of another war on the Korean peninsula, NBC weapons would present a significant threat to U.S. forces and the security of U.S. allies. North Korea would likely try to consolidate and control strategic areas of South Korea by striking quickly and attempting to destroy allied defenses before the United States could provide adequate reinforcements. Pyongyang would most likely attempt to accomplish this with its large conventional and special operations forces and its chemical weapons and ballistic missiles.

It is critically important that the United States and China continue their mutual efforts to promote regional stability, and that the U.S. policy serve to encourage China's integration as a responsible member of the international community. The United States needs to build on its past successes in encouraging China towards joining international nonproliferation regimes. The United States will remain committed to a sustained strategic dialogue to address issues of mutual interest and proceed with a variety of confidence building measures to foster cooperation and pre-vent misunderstanding and miscalculation. Beijing has adopted a more responsible supply policy by adhering to international nonproliferation norms like the Nuclear Nonproliferation Treaty (NPT), by ratifying the Chemical Weapons Convention (CWC), by reaffirming its 1994 pledge to forego exports of complete Missile Technology Control Regime (MTCR)-class surface-to-surface missiles, and by pledging not to provide assistance to unsafeguarded nuclear facilities, including installations in both Pakistan and Iran. On 21 November 2000, China announced it would not assist, in any way, other countries to develop ballistic missiles that can be used to deliver nuclear weapons and to improve further and reinforce its export control system.

On the other hand, China's absence from other non-proliferation regimes, such as the Nuclear Suppliers Group (NSG) indicates that there is room for improvement.

It will be necessary for the United States and the international community to press Beijing to ensure that proliferation activity by Chinese entities is proscribed —especially where U.S. security interests are involved.

Counterproliferation will continue to be a strong component of the U.S. regional strategy in East Asia as long as U.S. defense commitments and U.S. forces are threatened by the spread of NBC weapons and missiles. The nuclear tests conducted by India and Pakistan in May 1998 added new complications not only for South Asia but also for security calculations of East Asian and Central Asian nations. The United States has found increasingly that the major nations of the region, including Japan, China, and South Korea, have sought to address the issue of proliferation not only bilaterally but through trilateral and multilateral forums to determine common approaches to this security challenge. Such mutual efforts are vital to reducing the threat of proliferation, to the benefit of international security as a whole.

In Northeast Asia, North Korea and China remain the countries of greatest concern because of their substantial and continuing efforts to improve their NBC weapons and missile forces and because of their proliferation activities. While North Korea has been struggling with severe economic problems for several years, it has maintained a high priority for its missile forces, which presents a serious challenge to the United States and its allies in the region, despite the dramatic June 2000 summit between the leaders of the two Koreas. China has strengthened its short-range missile forces in the last few years, a move designed to increase political pressure on Taiwan. Moreover, it is modernizing and expanding its longer-range missile force. Additionally,

China threatens even further expansion of its missile programs in response any further U.S. missile defense initiatives. North Korean proliferation activity involving missiles and related technology has resulted in a growing threat to U.S. forces, our allies, and interests in key regions of the Middle East and Asia. North Korea depends on these sales as a source of hard currency, which Kim Chong Il has acknowledged publicly. Since the Chinese government has taken steps to control some forms of proliferation, and in November 2000 publicly committed not to assist other countries to develop ballistic missiles that can be used to deliver nuclear weapons, and agreed to promulgate a missile technology export control list, we expect Chinese companies' sup-port to key programs of concern in these same regions to cease.

In Northeast Asia, North Korea and China will present serious proliferation challenges for the United States and its Allies in the region. While North Korea is suffering from serious economic shortcomings, its leaders have chosen to continue to attach a high priority to maintaining NBC weapons and missile programs. Should a conflict occur on the Korean peninsula, Pyongyang could employ these forces, threatening U.S. and allied military forces and hundreds of thousands of civilians in South Korea and elsewhere in the region. As North Korea continues to develop missiles with longer ranges, in the future it will be able to threaten wider areas of Northeast Asia, and potentially portions of the mainland United States As a principal means of raising hard currency, North Korea also is one of the world's leading exporters of missiles and missile production technology, particularly to the Middle East and South Asia. These exports have added to the overall proliferation problem, and further raised tensions in these regions. Exports of production technologies have the added potential effect of creating more producers, and more suppliers in the future.

China will continue to have substantial NBC weapon and ballistic missile capabilities. Although China's strategic forces are substantially less capable than Russia's, China remains one of the few countries that can threaten the continental United States. China will continue its pursuit of greater influence, a key element of which is the modernization and expansion of its nuclear forces. Concurrently, China will move forward with its broad missile modernization program, focusing on both regional and strategic delivery systems. It has substantially improved its SRBM forces in recent years and eventually will be able to deploy two solid-propellant road mobile ICBMs, one of which will be able to target all of the United States.

China's proliferation behavior has improved in the last several years and it has lived up to its pledges to forego all nuclear cooperation with Iran. China also has pledged not to assist any unsafeguarded nuclear facilities, but we cannot preclude ongoing contacts. Nonetheless, China remains one of the world's key sources for missile-related technologies. Although China has ratified several key nonproliferation treaties and regimes and made numerous nonproliferation pledges, it likely will continue to take advantage of ambiguities in those commitments to advance its strategic and economic interests.

Source: Secretary of Defense William S. Cohen, Proliferation: Threat and Response, Washington DC, Department of Defense. January 2001

# CIA Assessment of China

We continue to face ballistic missile threats from a variety of actors beyond Russia and China--specifically, North Korea, probably Iran, and possibly Iraq. In some cases, their programs are the result of indigenous technological development, and in other cases, they are the beneficiaries of direct foreign assistance. And while these emerging programs involve far fewer missiles with less accuracy, yield, survivability, and reliability than those we faced during the Cold War, they still pose a threat to US interests.

The three major suppliers of missile or WMD-related technologies continue to be Russia, China, and North Korea.

Again, many details of their activities need to remain classified, but let me quickly summarize the areas of our greatest concern.

Russian state-run defense and nuclear industries are still strapped for funds, and Moscow looks to them to acquire badly needed foreign exchange through exports. We remain concerned about the proliferation implications of such sales in several areas.

…Russian entities last year continued to supply a variety of ballistic missile-related goods and technical know-how to countries such as Iran, India, China, and Libya. Indeed, the transfer of ballistic missile technology from Russia to Iran was substantial last year, and in our judgment will continue to accelerate Iranian efforts to develop new missiles and to become self-sufficient in production.

Chinese missile-related technical assistance to foreign countries also has been significant over the years. Chinese help has enabled Pakistan to move rapidly toward serial production of solid-propellant missiles. In addition to Pakistan, firms in China provided missile-related items, raw materials, or other help to several countries of proliferation concern, including Iran, North Korea, and Libya.

Last November, the Chinese Foreign Ministry issued a statement that committed China not to assist other countries in the development of ballistic missiles that can be used to deliver nuclear weapons. Based on what we know about China's past proliferation behavior, Mr. Chairman, we are watching and analyzing carefully for any sign that Chinese entities may be acting against that commitment. We are worried, for example, that Pakistan's continued development of the two-stage Shaheen-II MRBM will require additional Chinese assistance.

On the nuclear front, Chinese entities have provided extensive support in the past to Pakistan's safeguarded and unsafeguarded nuclear programs. In May 1996, Beijing pledged that it would not provide assistance to unsafeguarded nuclear facilities in Pakistan; we cannot yet be certain, however, that contacts have ended. With regard to Iran, China confirmed that work associated with two nuclear projects would continue until the projects were completed. Again, as with Russian help, our concern is that Iran could use the expertise and technology it gets—even if the cooperation appears civilian—for its weapons program.

…China, whose drive for recognition as a Great Power is one of the toughest challenges we face. Beijing's goal of becoming a key world player and especially more powerful in East Asia has come sharply into focus. It is pursuing these goals through an ambitious economic reform agenda, military modernization, and a complex web of initiatives aimed at expanding China's international influence—especially relative to the United States.

Chinese leaders view solid relations with Washington as vital to achieving their ambitions. It is a two-edged sword for them, Mr. Chairman. China's development remains heavily reliant on access to Western markets and technology. But they also view Washington as their primary obstacle because they perceive the US as bent on keeping China from becoming a great power.

Perhaps the toughest issue between Beijing and Washington remains Taiwan. While Beijing has stopped its saber rattling—reducing the immediate tensions—the unprecedented developments on Taiwan have complicated cross-strait relations. The election last March of President Chen ushered in a divided government with highly polarized views on relations with Beijing. Profound mutual distrust makes it difficult to restart the on-again off-again bilateral political dialogue. In the longer term, Mr. Chairman, cross-strait relations can be even more volatile because of Beijing's military modernization program. China's military buildup is also aimed at deterring US intervention in support of Taiwan.

Russian arms are a key component of this buildup. Arms sales are only one element of a burgeoning Sino-Russian relationship. Moscow and Beijing plan to sign a "friendship treaty" later this year, highlighting common interests and willingness to cooperate diplomatically against US policies that they see as unfriendly to their interests—especially NMD.

On China's domestic scene, the Chinese Communist leadership wants to protect its legitimacy and authority against any and all domestic challenges. Over the next few years, however, Chinese leaders will have to manage a difficult balancing act between the requirements of reform and the requirements of staying in power.

China's leaders regard their ability to sustain economic prosperity as the key to remaining in power; for that reason, they are eager to join the WTO. Beijing views WTO accession as a lever to accelerate domestic economic reform, a catalyst for greater foreign investment, and a way to force Chinese state-owned enterprises to compete more effectively with foreign companies.

But Beijing may slow the pace of WTO-related reforms if the leadership perceives a rise in social unrest that could threaten regime stability. Chinese leaders already see disturbing trends in this regard. Their crackdown on Falungong, underground Christians, and other spiritual and religious groups reflects growing alarm about challenges to the Party's legitimacy.

All of these challenges will test the unity of the leadership in Beijing during a critical period in the succession process. The 16th Communist Party Congress next year will be an extremely important event, as it will portend a large-scale transfer of authority to the next generation of Communist Chinese leaders. The political jockeying has already begun, and Chinese leaders will view every domestic and foreign policy decision they face through the prism of the succession contest.

Source : Statement by Director of Central Intelligence George J. Tenet before the Senate Select Committee on Intelligence on the "Worldwide Threat 2001: National Security in a Changing World" 07 February 2001

# China: NBC Weapons and Missile Programs

**Nuclear:**

- Has substantial stockpile of nuclear warheads and means for delivery at all ranges —short, medium and long;
- modernizing nuclear missile force.
- Member of IAEA.
- Member of Zangger Committee.
- Maintains stockpile of fissile material.
- Has pledged no-first-use of nuclear weapons.
- Ratified the NPT and signed the CTBT.

**Biological:**

- Possesses infrastructure adequate to develop and produce biological warfare agents.
- Reaffirmed commitment not to develop biological weapons, but China likely retains some elements of an offensive program.
- Acceded to the BWC.

**Chemical:**

- Has the ability to quickly mobilize the chemical industry to produce a wide variety of chemical agents and delivery means.
- Probably has not divulged full nature of chemical warfare program.
- Ratified the CWC and has restricted the transfer of selected Australia Group chemicals.

**Ballistic Missiles:**

- Modernizing and expanding SRBM, MRBM, ICBM, and SLBM force.
- Successfully tested DF-31 ICBM (1999 and 2000).
- Not a member of the MTCR, but pledged to control missile technology items.

**Other Means of Delivery Available:**

- Land-, sea-, and air-launched cruise missiles, mostly anti-ship.
- Aircraft: fighters, bombers, helicopters.
- Ground systems: artillery, rocket launchers, mortars.

**Selected Chinese Proliferation Activity During the 1990s**

- Recipient TypeTrade/Cooperation Implication
- Iran Chemical precursor production technology and
- equipment.
- Promotes Iran’s effort to achieve a self-sufficient
- chemical warfare program.
- Iran, North Korea,
- Libya, Pakistan
- Missile-related items, raw materials, technical
- assistance.
- Enhances recipient states’ missile production efforts.

- Iran Small nuclear research reactor, zirconium production facility. Halted sale of uranium conversion facility.
- Enhances Iran's knowledge of the nuclear fuel cycle.
- Slowed proliferation concerns.
- Pakistan Previous assistance with plutonium production
- reactor.
- Assists Pakistan with effort to produce plutonium.
- Pakistan Supplied M-11 missiles. Enhanced Pakistan's missile capabilities.

Source: Adapted by Anthony H. Cordesman from Secretary of Defense William S. Cohen, Proliferation: Threat and Response, Washington DC, Department of Defense. January 2001

# The Global Nuclear Dimension – Part One

| Country | Sea-Based | Land Based | Air Force |
|---|---|---|---|
| US | 18 SSBM/432 SLBM (+1/16 Poseidon C-3 | 550 Missiles Total | 178 Active. 315 START accountable |
| (33,500 nuclear weapons)* | tubes in ex-SSBN) | 50 Peacekeeper MX | 2/20 B-2A |
| | 10 SSBN-734 with up to 24 Trident D-5 (240 SLBM) | 500 Minuteman II/III | 5/92 B-52H with up to 20 ALCM (AGM-86) each (57 combat ready) |
| | 8 SSBN-726 with up 24 Trident C-4 (192 SLBM) | | 7/91 B-1B |
| Russia | 19 SSBN/324 SLBM | 776 ICBM/3,540 Whd. | 74 Hvy Bomber (Start Accountable) |
| | | 180 SS-18 (RS-20 74 START-accountable Mostly Mod4/5 w/ 10 MIRV | |
| | 3 Typhoon with 20 SS-N-20 each (60) | | 68 Tu-95H6 with AS-15 ALCM |
| (62,500 nuclear weapons)* | | 160 SS-19 (RS-18) Mostly Mod 3,6 MIRV | 15 Tu-160 |
| | 7 Delta IV with 16 SS-N-23 each (112) | | |
| | 7 Delta II with 16 SS-N-18 each (112) | 20 SS-27 Topol M2 with 20 entering service | 7 Tu-95 & 5 Tu-160 test aircraft. |
| | 2 Delta I with 20 SS-N-8 each (40) | 46 SS-24 (RS22) with 10 MIRV 36 Rail in Russia 10 Silo in Russia | 158 Tu-22M/MR (92 in storage) |
| | In addition, 16 SSBN and 228 missiles remain START accountable: 3 Typhoon/60 SS-N-20 6 Delta III/96 SS-N-18 2Delta I/724 SS-N-8 | 370 SS-25 (RS12M) single warhead mobile (360) & silo launch (10) in Russia 36 SH-11 Galosh & 64 SH-08 Gazelle | |
| 11 Oscar SSGN with ABMs | | | |
| | 24 SS-N-19 | | |
| | 3 Yankee SSGN with 20+ SS-N-21 1 Yankee SSGN/12 SS-NX-24 | | |
| | 10 AkulaSSN/SS-N-21 3 Sierra SSN/SS-N-21 12 Victor III/SS-N-15 | | |

* Without nuclear warhead or weapons.

# The Global Nuclear Dimension – Part Two

| Country | Sea-Based | Land Based | Air Force |
|---|---|---|---|
| France | 4 SSBN/64 SLBM | None | 3/60 Mirage-2000N (AMSP) |
| (1,400 nuclear weapons)* | 2 L'Inflexible with 16 M-4?TN-70 or 71 each | | 36 Super Etendard AMSP plus 16 in storage |
| | 2 Le Triomphant with 16 M-45/TN-75 each | | |
| United Kingdom | 4 SSBN/58 SLBM | | None None |
| (1,100 nuclear weapons)* | 4 Vanguard SSBN with up to 16 Trident D-5 each and maximum of 48 warheads per boat. (Each missile can be MIRV'd to 12 warheads, But some had only 1. Total is less than 200 operational warheads. | | |
| China | 1 Xia SSBN with 12 CSS-N-3 (J-1) | 20+ CC-4 (DF-5) MIRV ICBM | Up to 126 H-6, Some nuclear capable. |
| (500-1,300 nuclear weapons)* | 1 Romeo SSGN? | 20+ CSS-3 (DF-4) ICBM | 200+ H-5? |
| | | 30-38 CSS-2 (DF-3 IRBM 50+ CSS-5 DF-21 IRBM | |
| | | 20L/200M DF-15 CSS-6/M-9 SRBM (600 km) | |
| | | 40 DF-11 CSS-7/M-11 SRBM (120-300 KM) | |

* Estimate by Sergei Rogov
Source: Adapted by Anthony H. Cordesman from the IISS, Military Balance, 2000-2001.

# US Department of Defense Estimate of Chinese Actions and Intentions Involving Nuclear, Biological, and Chemical Weapons

**Capabilities, Intentions, and Trends**

Beijing continues to emerge as an increasingly active player in the region. Therefore, it is focused on becoming a world-class industrialized power through a countrywide modernization effort, which includes economic, technological, and military components of national power. Beijing already wields significant international influence by virtue of its permanent membership on the United Nations (UN) Security Council and its economic influence. China's public support for nonproliferation regimes is motivated by several factors, including a desire to enhance its image as a responsible world power and support for nonproliferation objectives.

China's leaders have articulated that a limited but long-range nuclear capability is a key component of national strength and prestige, a capability critical to carrying out Beijing's independent foreign policy and to supporting its international status. China is qualitatively improving its nuclear arsenal through a modernization program and, by 2015, China likely will have tens of missiles capable of reaching the United States. Moreover, despite its ratification of the BWC and the CWC, China is believed to retain some biological and chemical warfare capabilities. Beijing also has under-taken a ballistic missile modernization effort. For example, it is expanding its SRBM force, which it likely views as an important tool for military and political influence in the region. It also is improving its ICBM capability by developing two road-mobile solid-propellant ICBMs and a new submarine launched ballistic missile (SLBM).

Overall funding for these programs will likely reflect, in part, China's evolving perceptions of global and regional threats and its response to changing domestic economic conditions. Beijing will be challenged to maintain the high growth rates of recent years and the defense budget is likely to vary between about 3.5 per-cent and 5 percent of China's total nominal Gross Domestic Product (GDP). Thus, funding for China's NBC and missile programs likely will increase gradually. Projecting a realistic modest growth pattern, including expected economic fluctuations, total military funding levels are expected to average between $44 and $70 billion (in constant 1998 dollars) annually between 2000 and 2004. China has made numerous nonproliferation pledges and ratified several key nonproliferation treaties and arms control regimes. In response to U.S. concerns that Chinese companies have provided support,

**Nuclear Program**

China currently has over 100 nuclear warheads and is increasing the size, accuracy, and survivability of its nuclear missile force. It is likely that the number of deployed Chinese theater and strategic systems will increase in the next several years. However, as its stra-tegic requirements evolve, it may change the pace of its modernization effort for its nuclear missile force (particularly if the United States deploys NMD); any warhead improvements will complement China's mis-sile modernization effort. China currently is not believed to be producing fissile material for nuclear weapons, but has a stockpile of fissile material suffi-cient to improve or increase its weapons inventory. China has ratified the NPT and signed the CTBT, and has declared it will never use its nuclear forces against a non-nuclear weapons state. China maintains a no-first- use pledge in its strategic nuclear doctrine and regards its strategic nuclear force as a deterrent against intimidation or actual attack. Thus, China's stated doc-trine reportedly calls for a survivable long-range mis-sile force that can hold a significant portion of the U.S. population at risk in a retaliatory strike. As China's strategic forces and doctrine further evolve, Beijing will continue to develop and deploy more modern ICBMs and SLBMs

**Biological Program**

China continues to maintain some elements of an offensive biological warfare program it is believed to have started in the 1950s. China possesses a sufficiently advanced biotechnology infrastructure to allow it to develop and produce biological agents. Its munitions industry is sufficient to allow it to weaponize any such agents, and it has a variety of delivery means that could be used for biological agent delivery. China is believed to possess an offensive biological warfare capability based on technology developed prior to its accession to the BWC in 1984. China actively participates in international efforts to negotiate a BWC compliance protocol.

Since 1984, China consistently has claimed that it never researched, produced, or possessed any biological weapons and never would do so. Nevertheless, China's declarations under the voluntary BWC declarations for confidence building purposes are believed to be inaccurate and incomplete, and there are some reports that China may retain elements of its biological warfare program.

**Chemical Program**

Beijing is believed to have an advanced chemical warfare program including research and development, production, and weaponization capabilities. China's chemical industry has the capability to produce many chemicals, some of which have been sought by states trying to develop a chemical warfare capability. Foreign sales of such chemicals have been a source of foreign exchange for China. The Chinese government has imposed restrictions on the sale of some chemical pre-cursors and its enforcement activities generally have yielded mixed results. While China claims it possesses no chemical agent inventory, it is believed to possess a moderate inventory of traditional agents. It has a wide variety of potential delivery systems for chemical agents, including cannon artillery, multiple rocket launchers, mortars, land mines, aerial bombs, SRBMs, and MRBMs.
Chinese military forces most likely have a good under-standing of chemical warfare doctrine, and its forces routinely conduct defensive chemical warfare training. Even though China has ratified the CWC, made its declaration, and subjected its declared chemical weapons facilities to inspections, we believe that Beijing has not acknowledged the full extent of its chemical weapons program.

**Ballistic Missiles**

China has continued to modernize its ballistic missile force over the last several years and its industrial base can support production of the full range of ballistic missiles. China's missile force is designed to serve as a strategic deterrent against Russia and the United States. While the ultimate extent of China's strategic modernization is unknown, it is clear that the number, reliability, survivability, and accuracy of Chinese strategic missiles capable of hitting the United States will increase during the next two decades.

China currently has about 20 CSS-4 ICBMs with a range of over 13,000 kilometers, which can reach the United States. Some of its ongoing missile modernization programs likely will increase the number of Chinese warheads aimed at the United States. For example, Beijing is developing two new-road mobile solid-propellant ICBMs. China has conducted successful flight tests of the DF-31 ICBM in 1999 and 2000; this missile is estimated to have a range of about 8,000 kilometers. Another longer-range mobile ICBM also is under development and likely will be tested within the next several years. It will be targeted primarily against the United States.
China currently has a single XIA class SSBN, which is not operational; it is intended to carry 12 CSS-NX-3 missiles; these missiles have a range greater than 1,000 kilometers. In addition, the Chinese are designing a new SSBN that will carry the JL-2 ballistic missile, which is expected to have a range of over 8,000 kilometers. The JL-2 likely will be tested in the next decade, and, when deployed, it probably will be able to target the United States from operating areas near the Chinese coast.

In addition, China increasingly sees conventionally armed ballistic missiles, such as the solid-propellant road-mobile CSS-6, with a range of 600 kilometers, as important weapons for a regional conflict and for their political and military deterrent effect. The size of this SRBM force is expected to grow in the next several years, as China will augment it with more modern CSS-7 road-mobile solid-propellant missiles, which have a range of 300 kilometers. These missiles are expected to incorporate satellite-assisted navigation technology to improve their accuracy. While continuing to increase the number of missiles and launchers in its inventory, Beijing also is concentrating on replacing liquid-propellant missiles with mobile solid-propellant missiles, reflecting a preference for diminished maintenance and improved survivability and reliability.

**Cruise Missiles and Other Means of Delivery**

China produces several types of land-, sea-, and air-launched cruise missiles, which are potential means of delivery for NBC weapons. While most are short-range and are deployed for anti-ship operations, China is developing land attack cruise missiles (LACMs) as well as a submarine-launched anti-ship cruise missile; this effort appears to have a relatively high priority. China's research and development of LACMs is being aided by an aggressive acquisition of foreign technology and subsystems, particularly from Russia. The first LACM will be an air-launched version, and may be operational in the next few years. China has exported several versions of anti-ship cruise missiles to countries in the Middle East and South Asia, and to North Korea. China also has a variety of fighters, bombers, helicopters, artillery, rockets, mortars, and sprayers available as potential means of delivery for NBC weapons.

**Role as Supplier**

China has made numerous nonproliferation pledges since 1992, publicly supports a number of nonproliferation regimes, and has ratified several nonproliferation related treaties. China has maintained that it will not assist any country in developing nuclear weapons or the MTCR-class missiles to deliver them, and has taken numerous steps over the last several years to strengthen its control over sensitive exports. Nevertheless, Chinese entities have supported some nuclear, chemical, and missile programs in countries of proliferation concern, driven by China's overall strategic interests in South Asia and the Middle East and by domestic economic pressures. China joined the Zangger Committee, which clarifies certain nuclear export obligations under the NPT, in October 1997 and participated in the Zangger Conversion Technology Holders meeting in February 1999.

This was China's first opportunity to participate in a discussion of this type that could result in changes to the Zangger trigger list coverage. In late 1997, China pledged not to engage in any new nuclear cooperation with Iran and to complete work on two remaining nuclear projects —a small research reactor and a zirconium production facility —in a relatively short period of time. An Agreement for Peaceful Nuclear Cooperation between the United States and China would have entered into force on 30 December 1985, but Congress intervened owing to concerns about China's nonproliferation policies and practices. Following these major and positive changes in China's approach to its nuclear nonproliferation obligations and responsibilities, the United States in March 1998 made the certifications necessary to permit peaceful U.S. nuclear cooperation, including some exports, under the U.S.-China Agreement.

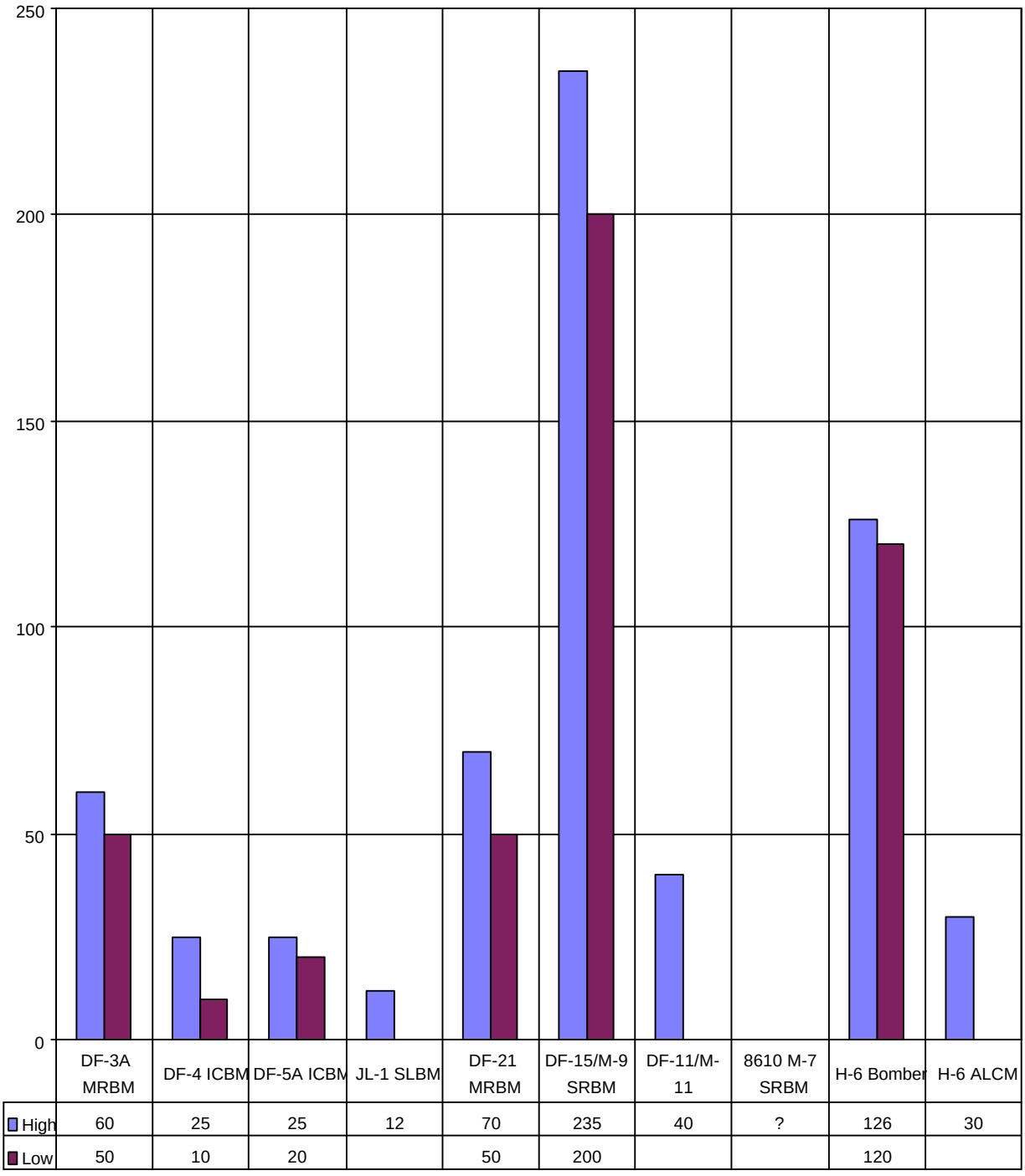
In the past, Chinese firms supplied chemical warfare-related production equipment and technology to Iran. The U.S. sanctions, imposed in May 1997 on seven Chinese entities for knowingly and materially contributing to Iran's chemical warfare program, remain in effect. In June 1998, China announced that it had expanded its chemical export controls to include 10 of the 20 Australia Group chemicals not listed on the CWC schedules.

In October 1994, China reaffirmed its commitment not to export ground-to-ground MTCR-class missiles. In November 2000, China made a clear policy commitment not to assist, in any way, other countries to develop ballistic missiles that can be used to deliver nuclear weapons, and to further improve and reinforce its export control system, including by publishing at an early date a comprehensive export control list of missile-related items, including dual-use items. This pledge provides constraints on China's missile exports. In consideration of China's commitment to strengthen its missile-related export control system, the U.S. government decided to waive sanctions required by U.S. law for past assistance by Chinese entities to missile programs in Pakistan and Iran.

…In recent years, Chinese firms have provided some important missile-related items and assistance to several countries of concern, such as Iran, Libya, and North Korea. China also has provided extensive support in the past to Pakistan's nuclear and ballistic missile pro-grams, and some ballistic missile assistance continues.

Source: Department of Defense, Proliferation and Response, January 2001, China section.

# Chinese Deployed Nuclear-Capable Delivery Systems




| | DF-3A MRBM | DF-4 ICBM | DF-5A ICBM | JL-1 SLBM | DF-21 MRBM | DF-15/M-9 SRBM | DF-11/M-11 | 8610 M-7 SRBM | H-6 Bomber | H-6 ALCM |
|---|---|---|---|---|---|---|---|---|---|---|
| High | 60 | 25 | 25 | 12 | 70 | 235 | 40 | ? | 126 | 30 |
| Low | 50 | 10 | 20 | | 50 | 200 | | | 120 | |

Source: Adapted by Anthony H. Cordesman from IISS, Military Balance, 2000-2001, and Shirley A. Kan, China: Ballistic and Cruise Missiles, Congressional Research Service, CRS 97-391 F, September 28, 1998

# Estimate of Total Chinese Nuclear Forces, 2000-2001

| Type/ Designation | Launchers Deployed | First Deployed | Range (km) | Warheads x yield | Warheads |
|---|---|---|---|---|---|
| LAND - BASED MISSILES | | | | | |
| DF-3 (3A) | 30-40 | 1971 | 2,650 (2,800) | 1 x 3.3 MT | 50 |
| DF-4 | 20-30 | 1980 | 4,750 | 1 x 3.3 MT | 20 |
| DF-5 (5A) | 20+ | 1981 | 12,000 (13,000) | 1 x 4-5 MT; MIRV tested | ~20 |
| DF-21 (21A) | 40-50+ | 1985-6 | 1,700 (1,800) | 1 x 200-300 kt | 36 |
| DF-25 | 0 | development | 1,700 | n/a | 0 |
| DF-31 | 0 | Tested in 1999 | 8,000 | 1 x 200-300 kt; 50-90 kt; MIRV? | 10-20 to be built |
| DF-41 | 0 | development | 12,000 | 250 kt**;** MIRV | 12 to be built |
| SEA LAUNCHED BALLISTIC MISSILES | | | | | |
| Julang-1 | 12 | 1986 | 1,700 (2150) | 1 x 200-300 kt | 12 |
| Julang-2 | 0 | development | 8,000-9,000 | 1 x 100-200 kt | 16 to be built? |
| AIRCRAFT | | | | | |
| H-6 | 120 | 1965 | 3,100 | 1-3 bomb (10kt -3MT) | 120 |
| Q-5 | 30 | 1970 | 400 | 1 bomb (10kt - 3 MT) | 30 |
| TACTICAL WEAPONS | | | | | |
| Artillery/SRMs | | | | low kt | 120 |
| TOTAL | | | | ~410 MT | 400 |

Sources for this table include: Rodney Jones and Mark McDonough, Tracking Nuclear Proliferation, 1998 (Washington D.C.: Carnegie Endowment for International Peace, 1998); William Arkin, Robert Norris, and Joshua Handler, Taking Stock: Worldwide Nuclear Deployments, 1998 (Washington, D.C.: NRDC Nuclear Program, 1998); "Table of Chinese Nuclear Forces," Natural Resources Defense Council, nrdc.org/nuclear/nudb/datab17.asp; Center for Nonproliferaion Studies, Proliferation Challenges and Nonproliferation Opportunities for New Administrations, Occasional Paper No. 4, Monterey Institute of International Studies, September 2000; IISS, Military Balance, 2000-2001, and Department of Defense, Proliferation and Response, January 2001, p. 54-56.

1. There are varying reports as to the number of DF-5 (CSS-4) missiles in China's inventory. Unconfirmed reports by anonymous intelligence officials have placed the number as high as 24, while the International Institute for Strategic Studies places the total count at 7. See Bill Gertz, "China adds 6 ICBMs to arsenal," *The Washington Times*, July 21, 1998, p. A1, and "China Targets Nukes at U.S.:CIA Missile Report contradicts Clinton," *Washington Times*, May 1, 1998, p. A1; Most recently, Robert Walpole, National Intelligence Officer for Strategic and Nuclear Programs placed the number at "about 20." in remarks given at the Carnegie Endowment, September 17, 1998.

2. Recent reports have claimed that China is increasing its ballistic missile force aimed at Taiwan. (see Bill Gertz, "Chinese Missiles Menace Taiwan," *Washington Times*, February 11, 1999. The report claimed that China had produced 150 M-9 and M-11 (short-range ballistic missiles) and was facing the majority of the force toward Taiwan. It should be noted that these are non-nuclear systems, and are not represented in this chart.

3. 310 MT is a good estimate for the yield of China's ballistic missile forces. The bombs, however, with a range of 10kt to 3MT pose a slight problem. We estimate the bomb force to have a yield of approximately 100 megatons. 4. China's first test of the mobile three-stage DF-31 intercontinental ballistic missile (ICBM) took place on August 2, 1999, at Wuzhai, 250 miles southwest of Beijing.

# Chinese Missile Programs and Developments[1]

| Type | Chinese Name | US Name | No. Deployed | Range (Km) | Warhead (Kg) | CEP (M) | Launch Platform | Fuel | Status |
|---|---|---|---|---|---|---|---|---|---|
| ICBM | DF-4[1] | CCS-3 | 10-25 | 4,750 | 2200 (3.3 megaton warhead) | 1370 | cave | liquid | in service 1980 |
| ICBM | DF-5A[2] | CSS-4 | 20 | 13,000 | 3,200 (4-5 megaton warhead) | 500 | hardened silos | liquid | in service 1981 |
| ICBM | DF-31[3] | - | - | 8000 | 700 | ? | land-mobile | solid | 2002 |
| ICBM | DF-41[4] | - | - | 12,000 | 800 | ? | land-mobile | solid | 2005 |
| MRBM | DF-3A[5] | CSS-2 | 30- 40+ | 2800 | 2150 (3.3 megaton warhead) | 1000 | land-mobile | liquid | in service 1971 |
| MRBM | DF-21/ 21A[6] | CSS-5 | 10-50+ | 1800 | 600-800 (200-300 kiloton warhead) | ? | Mobile-TEL | solid | in service |
| MRBM | DF-25[7] | - | - | 1700 | 2000 | ? | land-mobile | solid | after 2000 |
| SLBM | JL-1[8] | CSS-N-3 | 12-24 | 1700 | 600 (200-300 kiloton warhead) | ? | Xia SSBN | solid | in service |
| SLBM | JL-2[9] | - | - | 8000-10,000 | 700 | ? | 094 SSBN | solid | after 2005 |
| SRBM | DF-15[10] M-9 | CSS-6 | 200+ | 600 | 500 (50-350 kiloton warhead) | 300 | Mobile TEL | solid | in service 1995 |
| SRBM | DF-11[11] M-11 | CSS-7 | 40+ | 280-300 | 500-800 | ? | Mobile TEL | solid | in service 1995 |
| SRBM | 8610[12] M-71 | CSS-8 (mod HQ-2 SAM) | ? | 150 | 190 | ? | Mobile launcher | solid | in service |

Note: High side of range deployed is generally most likely to be correct with the exception of the JL-1. Low side reflects doubt as to actual operational reliability of systems Chinese regard as deployed and combat operational. DF: Dong Feng means “East Wind.” JL: Julang means “Giant Wave.” According to “The Bulletin of the Atomic Scientist, Chinese Nuclear Forces, 2000,” China canceled the development of a sixth type of Dong Feng missile, the DF, it has begun developing a new mobile. Solid-propellant ICBM. The nuclear capability of the 600-kilometer range M-9 and the 300-kilometer range m-11 is unconfirmed. The Chinese define missile ranges as follows: short range, <1,000 kilometers; medium-range,1,000-3,000 kilometers; long-range,3,000-8,000 kilometers; and intercontinental range,>8,000 kilometers

[1] Deployed since 1980. Response time of 2.5 hours, strap-down inertial guidance. Stored in caves and mountainside tunnels.

[2] Deployed since 1981, most targeted on the US. Gyroplatform inertial guidance with on-board computer and storable liquid fuel. Deployed in hardened underground silos. Normally kept unfueled and without warheads

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[1] Adapted from work by Shirley A. Kan in China: Ballistic and Cruise Missiles, Congressional Research Service, CRS 97-391 F, September 28, 199

[2] Deployed since 1981, most targeted on the US. Gyroplatform inertial guidance with on-board computer and storable liquid fuel. Deployed in hardened underground silos. Normally kept unfueled and without warheads

[3] Possible MIRVing capability. Booster tested in 1998.

[4] Supposedly road, rail, river mobile.

[5] Deployed since 1971, strap-down inertial guidance. Reaction time 110 minutes. China sold 36 to Saudi Arabia.

[6] Same fuel and guidance as JL-1. Automatic command-control-firing system from TEL. Reports of terminal guidance, possible radar. May be a DF-21A.First regiment deployed in 1985.

[7] Land mobile for truck transfer from semi-hardened sites to launch sites. No reports of test firings. One report that development has been abandoned

[8] All on one Jia submarine. Deployed since 1983, successful underwater launch tests in 1988. Operational status uncertain. Gyroplatform inertial guidance with on-board computer.

[9] To be deployed on new 094 SSBN with 16 tubes each. First SSBN that could target US from waters near China.

[10] Launch from mobile TEL with preparation time of 30 minutes. Strap-down inertial guidance with on-board computer with terminal velocity correction. May be seeking GPS guidance. Four fired in Taiwan crisis in 1995. Three landed in general target area, one crashed prematurely. Four more fired in Taiwan crisis in 1996. Four landed in general target area. Some reported indicate that 20-30 more had been prepared for firing.

[11] US imposed sanctions on China and Pakistan because this system was sold to China.

[12] Unconfirmed reports that Iran has acquired this missile technology.

[3] Possible MIRVing capability. Booster tested in 1998.

[4] Supposedly road, rail, river mobile.

[5] Deployed since 1971, strap-down inertial guidance. Reaction time 110 minutes. China sold 36 to Saudi Arabia.

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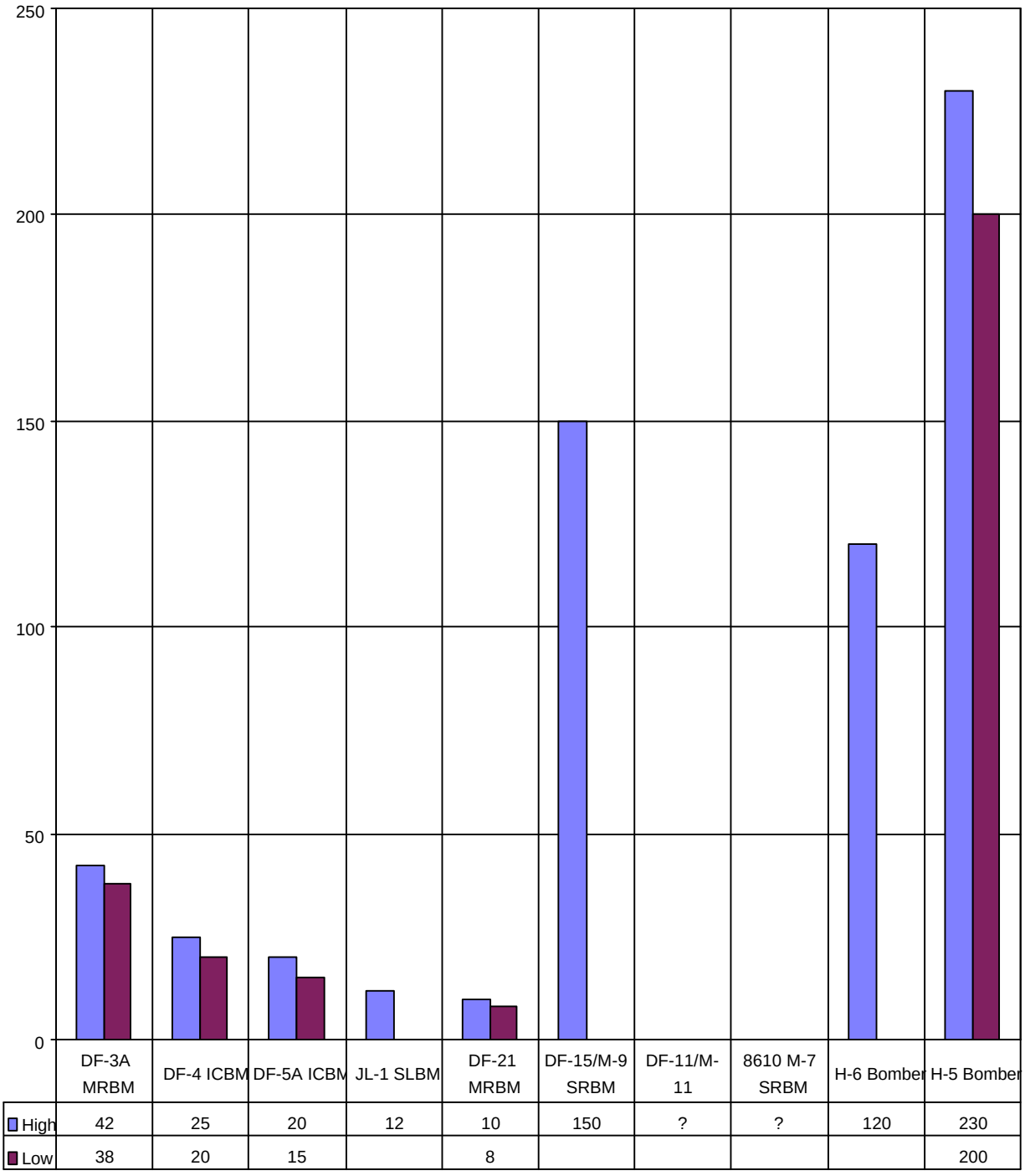
[7] Land mobile for truck transfer from semi-hardened sites to launch sites. No reports of test firings. One report that development has been abandoned

[8] All seem to be on one Jia submarine. Deployed since 1983, successful underwater launch tests in 1988. Operational status uncertain. Gyroplatform inertial guidance with on-board computer.

Adapted from Jason D. Ellis and Todd M. Koca, "China Rising: New Challenges to the US Security Posture," Strategic Forum, No. 175, October 2000, IISS, Military Balance, 2000-2001, and Department of Defense, Proliferation and Response, January 2001, p. 54-56.

# Chinese Deployed Nuclear-Capable Delivery Systems




| | DF-3A MRBM | DF-4 ICBM | DF-5A ICBM | JL-1 SLBM | DF-21 MRBM | DF-15/M-9 SRBM | DF-11/M-11 | 8610 M-7 SRBM | H-6 Bomber | H-5 Bomber |
|---|---|---|---|---|---|---|---|---|---|---|
| High | 42 | 25 | 20 | 12 | 10 | 150 | ? | ? | 120 | 230 |
| Low | 38 | 20 | 15 | | 8 | | | | | 200 |

Source: Adapted by Anthony H. Cordesman from IISS, Military Balance, 1999-2000, and Shirley A. Kan, China: Ballistic and Cruise Missiles, Congressional Research Service, CRS 97-391 F, September 28, 1998

# Chinese Missile Programs and Developments[13]

| Type | Chinese Name | US Name | No. Deployed | Range (Km) | Warhead (Kg) | CEP (M) | Launch Platform | Fuel | Status |
|---|---|---|---|---|---|---|---|---|---|
| ICBM | DF-4[14] | CCS-3 | 10-25 | 5500+ | 2200 | 1370 | land-mobile | liquid | in service |
| ICBM | DF-%A[15] | CSS-4 | 20 | 13,000 | 3,200 | 500 | hardened silos | liquid | in service |
| ICBM | DF-31[16] | - | - | 8000 | 700 | ? | land-mobile | solid | after 2000 |
| ICBM | DF-41[17] | - | - | 12,000 | 800 | ? | land-mobile | solid | after 2010 |
| MRBM | DF-3A[18] | CSS-2 | 40+ | 2800 | 2150 | 1000 | land-mobile | liquid | in service |
| MRBM | DF-21[19] | CSS-5 | 10 | 1800 | 600 | ? | Mobile-TEL | solid | in service |
| MRBM | DF-25[20] | - | - | 1700 | 2000 | ? | land-mobile | solid | after 2000 |
| SLBM | JL-1[21] | CSS-N-3 | 12 | 1700 | 600 | ? | Xia SSBN | solid | in service |
| SLBM | JL-2[22] | - | - | 8000 | 700 | ? | 094 SSBN | solid | after 2005 |
| SRBM | DF-15[23] M-9 | CSS-6 | 4+ | 600 | 500 | 300 | Mobile TEL | solid | in service |
| SRBM | DF-11[24] M-11 | CSS-7 | ? | 300 | 500 | ? | Mobile TEL | solid | in service |
| SRBM | 8610[25] M-71 | CSS-8 (mod HQ-2 SAM) | ? | 150 | 190 | ? | Mobile launcher | solid | in service |

[13] Adapted from work by Shirley A. Kan in China: Ballistic and Cruise Missiles, Congressional Research Service, CRS 97-391 F, September 28, 199

[14] Deployed since 1980. Response time of 2.5 hours, strap-down inertial guidance. Stored in caves and mountainside tunnels.

[15] Deployed since 1981, most targeted on the US. Gyroplatform inertial guidance with on-board computer and storable liquid fuel. Deployed in hardened underground silos. Normally kept unfueled and without warheads

[16] Possible MIRVing capability. Booster tested in 1998.

[17] Supposedly road, rail, river mobile.

[18] Deployed since 1971, strap-down inertial guidance. Reaction time 110 minutes. China sold 36 to Saudi Arabia.

[19] Same fuel and guidance as JL-1. Automatic command-control-firing system from TEL. Reports of terminal guidance, possible radar. May be a DF-21A.First regiment deployed in 1985.

[20] Land mobile for truck transfer from semi-hardened sites to launch sites. No reports of test firings. One report that development has been abandoned

[21] All on one Jia submarine. Deployed since 1983, successful underwater launch tests in 1988. Operational status uncertain. Gyroplatform inertial guidance with on-board computer.

[22] To be deployed on new 094 SSBN with 16 tubes each. First SSBN that could target US from waters near China.

[23] Launch from mobile TEL with preparation time of 30 minutes. Strap-down inertial guidance with on-board computer with terminal velocity correction. May be seeking GPS guidance. Four fired in Taiwan crisis in 1995. Three landed in general target area, one crashed prematurely. Four more fired in Taiwan crisis in 1996. Four landed in general target area. Some reported indicate that 20-30 more had been prepared for firing.

[24] US imposed sanctions on China and Pakistan because this system was sold to China.

[25] Unconfirmed reports that Iran has acquired this missile technology.

# US Intelligence Estimates of Chinese Modernization

The US National Intelligence Council report summarizes the Chinese ballistic missile threat to the US as follows:[i]

- "Chinese strategic nuclear doctrine calls for a survivable long-range missile force that can hold a significant portion of the US population at risk in a retaliatory strike.
- China's current force of about 20 CSS-4 ICBMs can reach targets in all of the United States.
- Beijing also is developing two new road-mobile, solid propellant ICBMs.
    - It conducted the first flight test of the mobile DF-31 ICBM in August 1999; we judge it will have a range of about 8,000 km and will be targeted primarily against Russia and Asia.
    - We expect a test of a longer range mobile ICBM within the next several years; it will be targeted primarily against the United States.
- China is developing the JL-2 SLBM, which we expect to be tested within the next decade. The JL-2 probably will be able to target the United States from launch areas near China.
- By 2015, China will likely have tens of missiles targeted against the United States, having added a few tens of more survivable land- and sea-based mobile missiles with smaller nuclear warheads—in part influenced by US technology gained through espionage.
- China has had the technical capability to develop multiple RV payloads for 20 years. If China needed a multiple-RV (MRV) capability in the near term, Beijing could use a DF-31-type RV to develop and deploy a simple MRV or multiple independently targetable reentry vehicle (MIRV) 1 for the CSS-4 in a few years. MIRVing a future mobile missile would be many years off.
- China is also significantly improving its theater missile capabilities and is increasing the size of its SRBM force deployed opposite Taiwan.
- We assess that an unauthorized launch of a Chinese strategic missile is highly unlikely."

A Department of Defense report makes the following comments about Chinese attitudes and force developments:[ii]

- "Although the PLA is still decades from possessing a comprehensive capability to engage and defeat a modern adversary beyond China's boundaries, Beijing believes that the PLA can develop *asymmetric* abilities in certain niches--such as advanced cruise missiles and conventional short-range ballistic missiles (SRBMs). Asymmetric warfare generally is defined as attacks by a weaker or more technologically backward opponent on a stronger foe's vulnerabilities using unexpected or innovative means, while avoiding the adversary's strengths. China's effort to "leapfrog" generations of technology in weapons programs is often times perceived as an effort to develop new and surprising capabilities, but most of the actual programs are derivative of efforts already well underway in more developed countries. Rather than technological breakthroughs, Beijing's military modernization effort could more accurately be described as a focus on *asymmetric engagement* capabilities. China is seeking to identify innovative tactics and employment parameters for systems and technologies which the PLA has successfully employed or can be reasonably expected to employ in the next two decades.
- "… Beijing's military modernization program, underway for the past two decades, is designed to prepare the PLA to conduct regional active defensive warfare in support of Chinese economic interests and sovereignty claims--a doctrinal shift away from a focus on the large-scale, land-based guerrilla warfare of Mao's classic "People's War." Chinese doctrine and tactics, however, still bear the indelible mark of Mao's teachings, particularly as they apply to concentration of power by a technologically inferior force at select times and places on the battlefield to overcome a foe armed with superior weapons.
- "Rather than shifting priority resources from civil infrastructure and economic reform programs to an across-the-board modernization of the PLA, Beijing is focusing on those programs and assets which will give China the most effective means for exploiting critical vulnerabilities in an adversary's military capabilities. This approach potentially will give Beijing the "credible intimidation" needed to accomplish political and military goals without having to rely on overwhelming force-on-force superiority. China's modernization programs thus seek to realize short-term improvements in anti- surface warfare (ASuW) and precision strike and longer term advances in missile defense, counter- space, and information warfare (IW). Concurrently, the PLA is acquiring weapons that would be useful in countering potential adversaries operating on naval platforms or from bases in the East and South China Seas, particularly stand-off weapons such as anti-ship cruise missiles (ASCMs) and long-range land-attack cruise missiles (LACMs), as well as SRBMs. Beijing also is working to address problems associated with integrating advanced weapons systems into their inventory; and weaknesses in command, control, communication, computers, and intelligence (C4I); training; and logistics, so as to improve the PLA's overall warfighting capability.
- "As demonstrated in military exercises in the Taiwan Strait in 1995 and 1996, China views its growing conventionally armed ballistic missile force as a potent military and political weapon to influence Taiwan's populace and their leaders. New LACM designs, when operational, will increase China's capability to strike regional targets accurately with conventional warheads. These kinds of weapons systems will play an increasingly important role in modern combat. By 2005, the PLA likely will have deployed two types of SRBMs and a first generation LACM. An expanded arsenal of accurate, conventional SRBMs and LACMs targeted against critical facilities, such as key airfields and C4I nodes, will complicate Taiwan's ability to conduct military operations.
- "*Short-Range Ballistic Missiles (SRBMs)*. Within the next several years, the size of China's SRBM force is expected to grow substantially. The PLA currently has one regimental-sized CSS-6 (DF-15/M-9) SRBM unit deployed in southeastern China. The CSS-6 is a solid propellant, road mobile missile which can deliver a 500-kilogram conventional payload to a maximum range of 600 km. The CSS-X-7 SRBM—better known by its export designator, the M-11—also is a solid propellant, road-mobile SRBM with an estimated range of 300 km. This missile, however, has not yet entered the PLA's inventory; and an improved, longer range version may be under

development. Moreover, both the CSS-6 and the CSS-X-7 are expected to incorporate satellite-assisted navigation technology to improve their accuracy. In an armed conflict with Taiwan, China's SRBMs likely would target air defense installations, airfields, naval bases, $C^4I$ nodes, and logistics facilities.

- *"Land -Attack Cruise Missiles (LACMS).* China also is developing LACMs. These missiles appear to have a relatively high development priority. Chinese research and development of LACMs is being aided by an aggressive effort to acquire foreign cruise missile technology and subsystems, particularly from Russia. The first LACM to enter production probably would be air-launched and could be operational early in the next century.

- *"Antiship Cruise Missiles (ASCMs).* Technological improvements to the C-801/SARDINE and the C-802/ SACCADE are providing a gradual upgrade to China's current force of antiquated, first generation, CSS-N-1/SCRUBBRUSH ASCMs. Despite the obsolescence of many of its ships, its lack of operational experience and its inability to resupply ASCMs at sea, the PLA Navy could assemble a sizeable ASuW force against Taiwan and, most likely, saturate the Taiwan Navy with barrages of ASCMs. In addition, B-6D bombers subordinate to the PLA Naval Air Force (PLANAF) are capable of firing the C-601/KRAKEN ASCM. The Navy's new FB-7 bomber likely will carry C-801/C-802 ASCMs. China's ASCM capability is expected to improve further with the planned acquisition of two Russian-built SOVREMENNYY-class destroyers armed with the SS-N-22/SUNBURN ASCM.

- "… Within the next several years, the size of China's SRBM force is expected to grow substantially. An expanded arsenal of conventional SRBMs and LACMs targeted against critical facilities, such as key airfields and C4I nodes, will complicate Taiwan's ability to conduct military operations. By 2005, China will have deployed both the CSS-6 and CSS-7 SRBM. In addition, the PLA could have a first generation, air-launched LACM in its inventory. Should Beijing choose escalation, a rapid transition from relatively low-intensity blockade operations to massive missile strikes would be a likely step, particularly as a pretext to an invasion. These missile attacks most likely would be high-volume, precision strikes against priority military and political targets, including air defense facilities, airfields, Taiwan's C2 infrastructure, and naval facilities. China, however, could encounter problems coordinating missile firings with other concurrent military operations, such as air and maritime engagements. Exclusive Taiwan reliance on active missile defenses and associated BM/C3I, however, will not sufficiently offset the overwhelming advantage in offensive missiles which Beijing is projected to possess in 2005.

- "…Despite anticipated improvements to Taiwan's missile and air defense systems, by 2005, the PLA will possess the capability to attack Taiwan with air and missile strikes which would degrade key military facilities and damage the island's economic infrastructure. China will continue to give priority to long-range precision-strike programs. Similarly, despite improvements in Taiwan's ability to conduct ASW operations, China will retain the capability to interdict Taiwan's SLOCs and blockade the island's principal maritime ports. Should China invade Taiwan, such an operation would require a major commitment of civilian air and maritime transport assets, would be prolonged in duration, and would not be automatically guaranteed to succeed. In the end, any of these options would prove to be costly to Beijing--politically, economically, diplomatically, and militarily.

- "Beyond 2005, development of a modern military force capable of exerting military influence within the region, achieving deterrence against potential enemies, preserving independence of action in domestic and foreign affairs, protecting the nation's economic resources and maritime areas, and defending the sovereignty of the nation's territory will remain one of China's national priorities. Beijing will strive to create a smaller, more modern, better trained, more professional, and better logistically supported force, with an emphasis on air, naval and missile forces. China will continue to improve its regional force projection capabilities, but will not possess the conventional military capabilities to exert global influence.

- "The PLA will field large numbers of increasingly accurate SRBMs and introduce LACMs into its inventory. China's naval forces will continue their transition from a large coastal defense force to a smaller, more modern force able to conduct limited sea control operations against regional opponents in the East and South China Seas. China's air force will continue to assimilate greater numbers of fourth generation aircraft into its inventory, upgrade its regional IADS, and expand its airborne refueling and AEW capabilities. China will retain a numerical advantage over Taiwan in terms of both personnel and weapons."

[i] National Intelligence Council, "Foreign Missile Developments and the Ballistic Missile Threat to the United States Through 2015, (September 1999 (www.cia.gov/cia/publications/nie/nie99).
[ii] Department of Defense, "The Security Situation in the Taiwan Straits," Report to Congress Pursuant to the FY1999 Appropriations Bill, February 1999.