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Congress of the United States

BRAC Commission

Washington, DC 20510

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Received

July 27, 2005

The Honorable Samuel K. Skinner
Member, Defense Base Realignment and Closure Commission
2521 S. Clark Street, Suite 600
Arlington, VA 22202

Dear Commissioner Skinner:

As you continue your evaluation of recommendations made by the Department of Defense concerning base closures and realignments, we urge you to review the enclosed copy of the recently published Department of Defense Annual Report to Congress titled *The Military Power of the People's Republic of China 2005* and its associated classified annex.

The report concludes that "over the long term, if current trends persist, PLA capabilities could pose a credible threat to other modern militaries operating in the region." Additionally, the report highlights that "PLA preparations, including an expanding force of ballistic missiles (long-range and short-range), cruise missiles, submarines, advanced aircraft, and other modern systems" challenge any assessment that suggests that China aspires to a "peaceful reunification" with Taiwan. China has steadily increased its defense budget since the early nineties doubling the overall amount of resources dedicated to military spending. Those numbers are derived from Chinese published reports; "estimates put it at two to three times the officially published figures." The report also states that "Beijing is in serial production of the domestic SONG-class submarine, acquiring more Russian KILO-class submarines, developing a new YUAN-class conventional submarine, and developing the Type-093 nuclear attack submarine for missions requiring greater at-sea endurance."

China's current naval force includes 64 major surface combatants, some 55 attack submarines, more than 40 medium and heavy amphibious lift vessels, and approximately 50 coastal missile patrol craft. China recently deployed its first two Russian-made SOVREMMENNYY-class guided missile destroyers. An additional two SOVREMMENNYY destroyers are under contract for delivery from Russia. The SOVREMMENNYY-class destroyers are fitted with advanced anti-ship cruise missiles and ship-borne air defense systems. The SONG-class submarine is designed to carry the YJ-82, an encapsulated Anti-ship cruise missile capable of submerged launch. The eight newly acquired KILO-class submarines will include the next generation highly capable SS-N-27 anti-ship cruise missile, and wire-guided and wake-homing torpedoes. We believe these facts clearly demonstrate that China is ramping up their order of battle and warrant serious attention when making long term strategic decisions.

As reported in today's *Defense Today,* the Chairman of the Joint Chiefs of Staff, General Richard Myers, stated that "'we've got to be careful we don't fall victim' to short-sightedness, and take care to avoid focusing only on the current war rather than perhaps very different threats in future." The report also noted that "DOD...has shifted toward lighter and more agile assets designed to counter terrorists and rogue states, and away from procuring weapons systems designed to counter major military powers such as China."

We appreciate the Commission's willingness to fully analyze the emerging threats before deciding on the recommendations for Portsmouth Naval Shipyard and Naval Air Station Brunswick – the last fully operational, active duty airfield in the Northeast.

Sincerely,

JUDD GREGG
United States Senator

OLYMPIA J. SNOWE
United States Senator

JOHN E. SUNUNU
United States Senator

SUSAN M.COLLINS
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Defense Today

July 26, 2005

Myers Says QDR Must Counter Major War Threat, Not Just Terrorism

By Dave Ahearn

U.S. military forces must procure the weapons platforms required to combat a wide range of threats including near-peer competitors such as China, rather than focusing on just the immediate threat confronting American forces in Afghanistan and Iraq, Air Force Gen. Richard Myers, chairman of the Joint Chiefs of Staff, said.

Myers was asked at a National Press Club newsmaker forum whether the Department of Defense (DOD), in its transformational move toward lighter and more agile forces, may be paying too little attention to threats such as China's vow to invade Taiwan and force it to submit to rule by Beijing, if the island nation doesn't submit to mainland control voluntarily.

DOD, however, has shifted toward lighter and more agile assets designed to counter terrorists and rogue states, and away from procuring weapons systems designed to counter major military powers such as China.

The F/A-22 Raptor supersonic stealth aircraft, the most advanced fighter in the world, has been cut from a former purchase goal of 750 to 170 planes. And the C-130J transport aircraft procurement program was canceled until Congress overruled the move.

The Navy proposed buying just four ships in the fiscal year ending Sept. 30, 2006, half the request for fiscal 2005.

Also, the Navy plans to buy just one next-generation DD(X) destroyer and one Virginia Class submarine per year in fiscal 2007 through 2011, and has deferred the start of construction on the future CVN 21 aircraft carrier, while proposing to cut the number of carriers to 11, rather than the dozen now in the fleet.

Meanwhile, China is poised to have a larger fleet of ships soon than the United States, including twice the number of submarines. Also, China is buying sophisticated Russian-made fighter aircraft.

Myers was asked whether, in light of this, the United States may not be paying enough attention to the threat that China may strike Taiwan.

"This is a very important question," Myers said, adding that it is crucial that DOD "put together the equipment and training" that military personnel will require to take on any potential threat to U.S. interests.

In responding to the question, he said it also would be important to add to the list of threats the need to provide for homeland defense.

Myers added that whether DOD may be emphasizing the capability to respond to some threats at the expense of being able to respond to others is "the core of the Quadrennial Defense Review," the currently ongoing Pentagon reassessment of its long-range requirements for coming decades.

In the QDR, military strategists must be able to step back from immediate concerns, and assess the entire spectrum of potential threats the nation may face in the near future, he said.

Myers noted that the conflict in Iraq differed from that in Afghanistan, and the next conflict may be quite dissimilar from the action in Iraq.

"We've got to be careful we don't fall victim" to short-sightedness, and take care to avoid focusing only on

the current war rather than perhaps very different threats in future, Myers said.

The QDR is "looking at...non-traditional missions" such as the war on terrorism, "looking at our needs" to see whether an imbalance in capabilities may be emerging, he said.

The question the QDR must answer is, "are we giving too much" in acquiring one set of capabilities over another, Myers said. QDR participants are focusing on "where are tradeoffs possible," so that DOD can be capable of countering adversaries both large and small. "It is going to be the big topic of the QDR," he said.

At this point, months into the QDR study, "no decisions have been made" as to what capabilities the DOD should be acquiring, choices that will be made in the fall, he said. The capabilities decision, in turn, would lead to decisions on just which weapons platforms to buy, and in what quantity.

In some areas, Myers said, DOD has "got too much conventional forces," referring to major platforms designed for the Cold War. He didn't specify just what those areas might be.

On other points, Myers said:

*All services are exceeding their personnel retention goals, as service men and women re-up. Responding to a question about Army problems in meeting targets for recruiting new personnel, he said new recruitment advertising is being prepared.

*The United States mustn't lose its nerve in the war on terrorism, because defeat in this war "is just an unacceptable alternative." Myers added that "if we lose our will, if we decide this fight isn't worth it...we will rue the day," because more terrorist attacks then will ensue.

*In looking more broadly at the war on terrorism, "This is really serious business," Myers warned. "It is not easy."

ANNUAL REPORT TO CONGRESS

The Military Power of the People's Republic of China 2005

Office of the Secretary of Defense

The Military Power of the People's Republic of China

A Report to Congress
Pursuant to the National Defense Authorization Act
Fiscal Year 2000

Section 1202 of the National Defense Authorization Act for Fiscal Year 2000, Public Law 106-65, provides that the Secretary of Defense shall submit a report "on the current and future military strategy of the People's Republic of China. The report shall address the current and probable future course of military-technological development on the People's Liberation Army and the tenets and probable development of Chinese grand strategy, security strategy, and military strategy, and of the military organizations and operational concepts, through the next 20 years."

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EXECUTIVE SUMMARY

The rapid rise of the People's Republic of China (PRC) as a regional political and economic power with global aspirations is one of the principal elements in the emergence of East Asia, a region that has changed greatly over the past quarter of a century. China's emergence has significant implications for the region and the world. The United States welcomes the rise of a peaceful and prosperous China, one that becomes integrated as a constructive member of the international community. But, we see a China facing a strategic crossroads. Questions remain about the basic choices China's leaders will make as China's power and influence grow, particularly its military power.

The Chinese People's Liberation Army (PLA) is modernizing its forces, emphasizing preparations to fight and win short-duration, high-intensity conflicts along China's periphery. PLA modernization has accelerated since the mid-to-late 1990s in response to central leadership demands to develop military options for Taiwan scenarios.

In the short term, the PRC appears focused on preventing Taiwan independence or trying to compel Taiwan to negotiate a settlement on Beijing's terms. A second set of objectives includes building counters to third-party, including potential U.S., intervention in cross-Strait crises. PLA preparations, including an expanding force of ballistic missiles (long-range and short-range), cruise missiles, submarines, advanced aircraft, and other modern systems, come against the background of a policy toward Taiwan that espouses "peaceful reunification." China has not renounced the use of force, however. Over the long term, if current trends persist, PLA capabilities could pose a credible threat to other modern militaries operating in the region.

The PLA is working toward these goals by acquiring new foreign and domestic weapon systems and military technologies, promulgating new doctrine for modern warfare, reforming military institutions, personnel development and professionalization, and improving exercise and training standards. We assess that China's ability to project conventional military power beyond its periphery remains limited.

This report outlines what we know of China's national and military strategies, progress and trends in its military modernization, and their implications for regional security and stability. But, secrecy envelops most aspects of Chinese security affairs. The outside world has little knowledge of Chinese motivations and decision-making and of key capabilities supporting PLA modernization. Hence, the findings and conclusions are based on incomplete data. These gaps are, of necessity, bridged by informed judgment.

The PLA's routine publication of a biannual Defense White Paper demonstrates some improvement in transparency. However, China's leaders continue to guard closely basic information on the quantity and quality of the Chinese armed forces. For example, the U.S. Department of Defense still does not know the full size and composition of Chinese government expenditure on national defense. Estimates put it at two to three times the officially published figures.

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CHAPTER ONE
KEY DEVELOPMENTS

Several significant developments in China's national strategies and military capabilities in the last two years relate to the questions posed by the Congress in Section 1202 of the National Defense Authorization Act for Fiscal Year 2000 (P.L. 106-65). These developments include:

Grand Strategy, Security Strategy, and Military Strategy

- In December 2004, Beijing released *China's National Defense in 2004* (hereinafter, Defense White Paper), the fourth such paper since 1998. The paper explains China's public views on security and provides information on military-related policies, organization, and regulations. Although a modest improvement over previous years, this newest Defense White Paper provides only limited transparency in military affairs.

- China continued its strategic focus on building "comprehensive national power," with an emphasis on economic development. This year, China will complete its 10th Five Year Plan and finalize preparations for the 11th Five Year Plan (2006-2010).

- State President and Chinese Communist Party (CCP) General Secretary Hu Jintao replaced Jiang Zemin as Chairman of the Central Military Commission (CMC) in September 2004. This transition is unlikely to produce significant change in China's strategy for military modernization, or in its approach to the United States, or Taiwan.

- The CMC expanded from eight to eleven members and added the commanders of the PLA Air Force, Navy, and the Second Artillery (or Strategic Rocket Forces). Air Force and Navy officers were also appointed Deputy Chiefs of the General Staff, reflecting China's emphasis on joint capabilities and inter-service coordination.

- In 2004, China began to express increased concern over a perceived technology gap between modern Western forces and its own. The 2004 Defense White Paper identifies the "technological gap resulting from the Revolution in Military Affairs" as a development that will have a "major impact on China's security." China's increased emphasis on asymmetric, non-linear, and "leap ahead" technologies through the 1990s – and for the foreseeable future – will, in our judgment, help it to close or mitigate this gap.

- Domestic protests, mainly directed at local policies and officials, have grown violent over the past year, posing increasing challenges to China's internal security forces. The number of these incidents in 2004 reached an all-time high of at least 58,000, according to official Chinese estimates. The rising number of protests reflects growing popular dissatisfaction with official behavior related to property rights and forced relocations, labor rights, pensions, corruption, and political reforms.

Trends in China's Strategy in the Asia-Pacific and Other Regions of the World

In 2004, China became more active in the global arena, deploying its growing political and economic weight to increase its influence not only regionally but globally. China's decision to deploy peacekeepers to Haiti and its growing engagement in Latin America are emblematic of this effort. In the Asia-Pacific region, some of its diplomacy was geared to regional institutions that would exclude the United States. Globally, competition with Taiwan and constraining Taiwan's international profile are important elements of China's foreign and diplomatic strategy, particularly among developing countries.

- China introduced "peaceful rise," a new term to describe China's emergence. Although China's leaders themselves spoke of "peaceful rise" when it first appeared, they quickly withdrew the term – apparently reflecting unresolved internal debate over whether or not the term itself was too unsettling to the region or, for some, too soft. Elements of that debate continue to appear in the Chinese press and professional journals. Nevertheless, China's leaders continue to highlight peaceful themes to describe its rise.

- China became the world's second largest consumer and third largest importer of oil in 2003. As China's energy and resource needs grow, Beijing has concluded that access to these resources requires special economic or foreign policy relationships in the Middle East, Africa, and Latin America, bringing China closer to problem countries such as Iran, Sudan, and Venezuela. Resource concerns, among others, played a role in increased Sino-Japanese tensions over the disputed East China Sea.

- Beijing continued to play its role as the chief organizer of the Six-Party Talks aimed at resolving the North Korea nuclear issue. China continues to call publicly for a "nuclear-free Korean Peninsula." China has unique potential, due to its historic ties and geography, to convince North Korea to give up its nuclear ambitions.

- China expanded upon the successful conclusion in 2003 of the China-ASEAN Joint Declaration of a Strategic Partnership for Peace and Prosperity – the first such agreement China has ever concluded with a regional organization – and China's 2003 accession to the ASEAN Treaty of Amity and Cooperation – the first non-ASEAN country to do so – by signing in 2004 a memorandum of understanding with ASEAN on Cooperation in the Field of Non-Traditional Security Issues and endorsing the ASEAN Code of Conduct for the South China Sea. Meanwhile, China maintains active diplomacy, including military relations, with most ASEAN member states to promote positive views of China's rise, gain access to resources, and isolate Taiwan.

- China continued to make progress on resolving its border dispute with India. In Beijing, improved ties with New Delhi serve as a way to stabilize its periphery and balance perceived improvements in U.S.-India relations. At the same time, Beijing is

encouraging New Delhi and Islamabad to reduce tensions while preserving China's historical strategic partnership with Pakistan.

- The PLA conducted joint maritime search and rescue drills for the first time with British, Indian, and French naval forces in 2004. China and Russia announced plans to hold a combined exercise in China sometime in 2005.

The Security Situation in the Taiwan Strait

- The 2004 Defense White Paper characterized the cross-Strait situation as "grim," and elevated Taiwan and sovereignty concerns to top priority for China's armed forces – an intensification of rhetoric from the previous Defense White Paper (2002).

- China's National People's Congress passed an "anti-secession law" in March 2005 as a means to pressure the Taiwan leadership, build a legal foundation to justify a use of force, and form a rhetorical counter to the U.S. Taiwan Relations Act.

- China held two large-scale amphibious exercises in 2004 (division to group-army level in size), one of which explicitly dealt with a Taiwan scenario, bringing the total number of amphibious exercises to ten over the past five years.

Chinese Strategy Regarding Taiwan

- China used diplomatic pressures and verbal warnings to try (unsuccessfully) to derail Taiwan President Chen Shui-bian's re-election in March 2004. Beijing sought to preempt Chen's May 20 inaugural address by issuing a statement on May 17 warning of the consequences of Taiwan's "pursuit of a separatist agenda."

- China continued to adhere to its policy of peaceful unification under the "one country, two systems" framework that offers Taiwan limited autonomy in exchange for Taiwan's integration with the mainland.

- Kuomintang Chairman Lien Chan and the People's First Party Chairman James Soong visited the mainland in the Spring of 2005. China did not change its policy of no direct negotiations with the leadership of Taiwan's democratically-elected government.

- Beijing continues to see the threat and possible use of force as integral to its policy of dissuading Taiwan from pursuing independence and moving Taiwan ultimately to unite with the mainland.

The Size, Location, and Capabilities of Chinese Forces facing Taiwan

China continued to deploy its most advanced systems to the military regions directly opposite Taiwan. These new weapon systems represent significant improvements from the older, less capable hardware that remains the bulk of China's inventory. To realize

the potential in the technologically advanced equipment, China's armed forces are attempting to integrate the systems into the force structure, develop modern doctrine and tactics, and improve training and exercises.

- Ballistic Missiles. China has deployed some 650-730 mobile CSS-6 and CSS-7 short-range ballistic missiles (SRBMs) to garrisons opposite Taiwan. Deployment of these systems is increasing at a rate of about 100 missiles per year. Newer versions of these missiles feature improved range and accuracy.

- China is exploring the use of ballistic missiles for anti-access/sea-denial missions.

- China is modernizing its longer-range ballistic missile force by replacing older systems with newer, more survivable missiles. Over the next several years China will begin to bring into service a new road-mobile, solid-propellant, intercontinental-range ballistic missile (ICBM), the DF-31, an extended range DF-31A, and a new submarine-launched ballistic missile, the JL-2.

- Air Power. China has more than 700 aircraft within un-refueled operational range of Taiwan. Many of these are obsolescent or upgrades of older-generation aircraft. However, China's air forces continue to acquire advanced fighter aircraft from Russia, including the Su-30MKK multirole and Su-30MK2 maritime strike aircraft. New acquisitions augment previous deliveries of Su-27 fighter aircraft. China is also producing its own version of the Su-27SK, the F-11, under a licensed co-production agreement with Moscow. Last year, Beijing sought to renegotiate its agreement and produce the multirole Su-27SMK for the remainder of the production run. These later generations of aircraft make up a growing percentage of the PLA Air Force inventory.

- China's indigenous 4th generation fighter, the F-10, completed development in 2004 and will begin fielding this year. Improvements to the FB-7 fighter program will enable this older aircraft to perform nighttime maritime strike operations. China has several programs underway to deploy new standoff escort jammers on bombers, transports, tactical aircraft, and unmanned aerial vehicle platforms.

- China is acquiring from abroad or developing advanced precision strike munitions, including cruise missiles and air-to-air, air-to-surface, and anti-radiation munitions.

- The PLA appears interested in converting retired fighter aircraft into unmanned combat aerial vehicles (UCAVs). China has hundreds of older fighters in its inventory that could be converted for this purpose.

- Naval Power. China's naval forces include 64 major surface combatants, some 55 attack submarines, more than 40 medium and heavy amphibious lift vessels, and approximately 50 coastal missile patrol craft. Two-thirds of these assets are located in the East and South Sea fleets.

- China deployed its first two Russian-made SOVREMENNYY-class guided missile destroyers (DDG) to the East Sea Fleet. An additional two SOVREMENNYY DDGs are under contract for delivery. The SOVREMENNYY DDGs are fitted with advanced anti-ship cruise missiles (ASCM) and ship-borne air defense systems.

- China's SONG-class diesel electric submarine has entered serial production. The SONG is designed to carry the YJ-82, an encapsulated ASCM capable of submerged launch. Last year, China launched a new diesel submarine, the YUAN-class, improving the capabilities of its submarine force. China's next generation nuclear attack submarine, the Type 093, is expected to enter service in 2005.

- China is acquiring eight additional KILO-class diesel electric submarines from Russia to augment the four previously purchased units. The new KILOs will include the advanced SS-N-27 ASCM, and wire-guided and wake-homing torpedoes.

- Air Defense. In August 2004, China received the final shipment from Russia of four S-300PMU-1/SA-20 surface-to-air missile (SAM) battalions. China has also agreed to purchase follow-on S-300PMU-2, the first battalion of which is expected to arrive in 2006. With an advertised intercept range of 200 km, the S-300PMU-2 provides increased lethality against tactical ballistic missiles and more effective electronic counter-counter measures.

- The PLA fielded a new self-propelled tactical SAM to its air defense brigades, the FM-90 (CSA-7). The CSA-7 is an improved copy of the French Crotale system. With a 15km range, the CSA-7 more than doubles the range of the man-portable air defense SAMs the PLA previously relied upon.

- Ground Forces. China has 375,000 ground forces personnel deployed to the three military regions opposite Taiwan. China has been upgrading these units with amphibious armor and other vehicles, such as tanks and armored personnel carriers.

- The PLA is expected to complete another round of downsizing, by some 200,000, by the end of 2005, bringing the size of the PLA to about 2.3 million, according to official statistics. The inclusion of paramilitary People's Armed Police and reserves increases that figure to over 3.2 million. The 2004 Defense White Paper claims that China can also draw upon more than 10 million organized militia members.

- China acquired more Mi-17/171 medium-lift helicopters from Russia in 2004 and is developing its own attack helicopter, the Z-10, which may enter service in 2014.

Developments in Chinese Military Doctrine

- China's latest Defense White Paper deployed authoritatively a new doctrinal term to describe future wars the PLA must be prepared to fight: "local wars under conditions of informationalization." This term acknowledges the PLA's emphasis on

information technology as a force multiplier and reflects the PLA's understanding of the implications of the revolution in military affairs on the modern battlefield.

- The PLA continues to improve its potential for joint operations by developing a modern, integrated command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) network and institutional changes.

- During 2004, the PLA began to integrate military and civilian suppliers in the procurement system and outsourced a number of previously military jobs to civilian industry. The PLA is placing greater emphasis on the mobilization of the economy, both in peacetime and in war, to support national defense.

- The PLA fielded its first experimental "joint logistical unit" in July 2004.

- China is digesting lessons learned from coalition military operations in Afghanistan and Iraq. China can be expected to incorporate these lessons into updated doctrine, planning, and acquisition programs.

Technology Transfers and Acquisitions to Enhance Military Capability

- China will continue to press the European Union (EU) to lift its embargo on the sale of arms to China, established in response to the Tiananmen crackdown in 1989. A decision by the EU to lift the embargo would allow China access to advanced technologies that could add new weapons systems to its inventory and increase the quality of, and production capabilities for, its current and future systems.

- In addition to deliveries and standing orders for the Su-30MKK and Su-30MK2 multirole fighters, SOVREMENNYY-class DDGs, KILO-class submarines, associated weapons, and advanced SAMs from Russia cited above, China may acquire additional IL-76 transport planes and the IL-78/MIDAS air refueling aircraft from Russia in 2005.

Assessment of Challenges to Taiwan's Deterrent Forces

- The cross-Strait military balance appears to be shifting toward Beijing as a result of China's sustained economic growth, growing diplomatic leverage, and improvements in the PLA's military capabilities.

- Taiwan defense spending has steadily declined in real terms over the past decade, even as Chinese air, naval, and missile force modernization has increased the need for countermeasures that would enable Taiwan to avoid being quickly overwhelmed.

- A $15.3 billion Special Budget for the purchase of Patriot PAC-III air defense systems, P-3C Orion anti-submarine aircraft, and diesel attack submarines, approved by the United States for sale to Taiwan in 2001, is now before the Taiwan Legislative Yuan.

CHAPTER TWO
UNDERSTANDING CHINA'S STRATEGY

"Observe calmly; secure our position; cope with affairs calmly; hide our capacities and bide our time; be good at maintaining a low profile; never claim leadership."

-- Deng Xiaoping[1]

Cooperative, Candid, and Constructive U.S.-China Relations

The EP-3 incident in April 2001 damaged U.S.-China relations. Thereafter, the United States developed a cooperative and constructive relationship with China in which the United States has stressed the values of candor and transparency.

- The United States and China have worked together to pursue the common objective of a nuclear weapons-free Korean Peninsula, to establish the Six-Party Talks process, and to cooperate on counter-terrorism – including China's joining the U.S. Container Security Initiative.

- Through the Joint Commission on Commerce and Trade and the Joint Economic Committee, senior economic policy officials are trying to manage bilateral trade, advance the goals established when China joined the World Trade Organization (WTO), and deal with such issues as China's compliance with Intellectual Property Rights standards.

- The United States and China have agreed to a new, periodic senior dialogue on global issues of mutual concern that will begin this summer.

- In our military-to-military relationship, we have expanded exchanges, including high-level visits and contacts between our military academies.

Nonetheless, questions remain about China's future and the choices Chinese Communist Party (CCP) leaders will make as China becomes a more powerful and influential regional and global actor. These choices will have significant implications – not merely for the United States, but for China, the Asia-Pacific region, and the world.

Images of China's Future

China is developing on the world stage as a regional power, but its emergence also has global implications. China faces a strategic crossroads. It can choose a pathway of peaceful integration and benign competition. China can also choose, or find itself upon, a pathway along which China would emerge to exert dominant influence in an expanding sphere. Or, China could emerge less confident and focused inward on challenges to

[1] As cited in "Deng Puts Forward New 12-Character Guiding Principle for Internal and Foreign Policies," Ching Pao (Hong Kong), No. 172, pp. 84-86, 5 November 1991. FBIS HK0611100091.

national unity and the Chinese Communist Party's claim to legitimacy. The future of a rising China is not yet set immutably on one course or another.

United States policy welcomes the rise of a peaceful and prosperous China. However, there are forces – some beyond the control of China's military and national security planners – that could divert China from a peaceful pathway. These include:

- nationalistic fervor bred by expanding economic power and political influence;
- structural economic weaknesses and inefficiencies that could undermine economic growth;
- an inability to accommodate the forces of an open, transparent market economy;
- a government that is still adapting to great power roles; and,
- an expanding military-industrial complex that proliferates advanced arms.

The interactions of these forces are difficult to predict, as are the implications of these interactions on China's strategic behavior and future strategic direction. Regarding the possible courses set out below, we have not attempted to give weight to any one over another, nor do we assert that any one is more likely than the others:

- ***More Assertive Foreign and Security Policies.*** Continued strong economic performance, combined with rising nationalism and confidence, could lead China to translate its economic gains into fielding an increasingly capable military. It could use its economic weight, backed by military power, to attempt to dictate the terms of foreign security and economic interactions with its trading partners and neighbors.
- ***Economic Stagnation.*** Economic stagnation – which could aggravate domestic political problems for Communist Party leaders – could lead Beijing to reduce military spending, or alternatively, to shift investments to the military in a bid to sustain domestic support through nationalistic assertions abroad.
- ***Economic Downturn.*** An economic downturn might occur at some time in the future, possibly as a result of the following factors: financial institutions are vulnerable, the transition to a market economy is incomplete, demographic change is placing stress on the social welfare system, and poor environmental practices have set the conditions for regional ecological disasters. A major economic downturn could have broad effects across regional economies, produce internal unrest, and generate refugee flows that could challenge central government control.
- ***Internal Unrest.*** Party leaders have relaxed their grip on the economic sphere and now allow greater public discourse on some issues, but continue to repress any challenges to their monopoly on political power. As documented in the latest U.S. Department of State report on human rights, independent trade and labor unions are

suppressed, ethnic-Tibetan and Uighur minorities are repressed, and religious groups continue to face harassment. Since 1999, as many as 2,000 adherents of the spiritual movement Falun Gong have died in prison from torture, abuse, or neglect. By suppressing the sort of civil society that can provide stability in crises, the Party has become less susceptible to small impacts but remains vulnerable to larger perturbations.

- ***Territorial Disputes.*** China has made progress in recent years toward settling long-standing territorial disputes with Russia, Vietnam, India, and Central Asia, but continues to have overlapping territorial claims with Japan, Vietnam, the Philippines, Malaysia, Brunei, and India. China fought small wars and skirmishes with several of these countries in the past. Conflicts to enforce China's claims could erupt in the future with wide regional repercussions, especially if tensions flare over exploration or exploitation of resources.

Direct Insights into China's Strategy are Few

Direct insights into China's national strategies are difficult to acquire. To assess China's intent, analysis of official Chinese strategy documents and White Papers must be augmented by examination of what China has accomplished in recent years and is attempting to accomplish in the future.

Chinese military strategists define grand strategy as "the overall strategy of a nation or alliance of nations in which they use overall national strength" to achieve political goals, especially those related to national security and development. Put another way, Chinese strategy, as they define it, is one of maintaining balance among competing priorities for national economic development and maintaining the type of security environment within which such development can occur.

Two concepts central to understanding how China would achieve this balance are "comprehensive national power" (CNP) and the "strategic configuration of power," or "*shi*." CNP is the concept by which China's strategic planners evaluate and measure China's national standing in relation to other nations. It includes qualitative and quantitative measures of territory, natural resources, economic power, diplomatic influence, domestic government, military capability, and cultural influence.
The "strategic configuration of power," or "*shi,*" is roughly equivalent to an "alignment of forces," although there is not a direct western equivalent. Chinese linguists also suggest that "*shi*" refers to the "propensity of things," or the "potential born of disposition," that only a skilled strategist can exploit. Conversely, only a sophisticated assessment by an adversary can recognize how "*shi*" can or will be exploited.

Resource Demands as a Driver of Strategy

As China's economy grows, its desire for markets and natural resources (e.g., metals and fossil fuels) will influence China's strategic behavior. The combined total of these imports accounted for just under 60 percent of all imports in 2003.

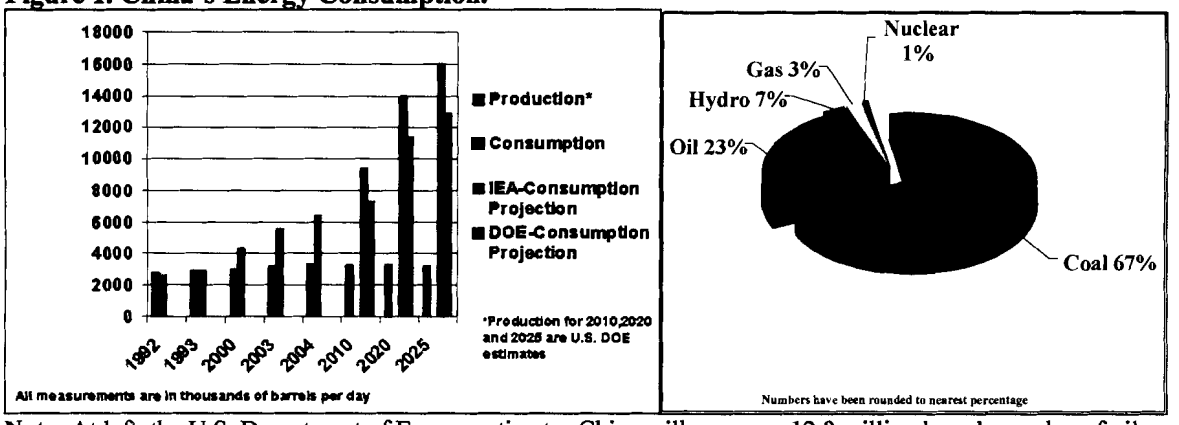
China still relies on coal for some two-thirds of its energy. The demand for coal – mostly from domestic sources – will increase as China's economy expands. China's demand for oil and gas is increasing rapidly. In 2003, China became the world's second largest consumer and third largest importer of oil. China currently imports over 40 percent of its oil. By 2025, this figure could rise to 80 percent (9.5 – 15 million barrels per day). Nuclear power and natural gas account for smaller, but growing, portions of energy consumption. China plans to increase natural gas utilization from 3 percent to 8 percent of total consumption by 2010. Similarly, China plans to build some 30 1,000 megawatt nuclear power reactors by 2020.

Chinese Premier Wen Jiabao, recognizing the rapid growth in Chinese oil and gas consumption, recently stated that the "shortage of oil and gas resources has become a restricting factor in our country's economic and social development," and called upon China to "implement a strategy for sustainable development of our oil and natural gas resources."

China began the process of constructing a strategic petroleum reserve (SPR) in 2004. By 2015, Beijing plans to build the SPR to the International Energy Agency standard of 90 days' supply. Poor logistics and transportation networks suggest this may still prove inadequate. For the foreseeable future, China will rely on overseas sources for oil and other strategic resources, meaning China will remain reliant upon maritime transportation to meet its energy demands.

This dependence on overseas resources and energy supplies, especially oil and natural gas, is playing a role in shaping China's strategy and policy. Such concerns factor heavily in Beijing's relations with Angola, Central Asia, Indonesia, the Middle East (including Iran), Russia, Sudan, and Venezuela – to pursue long-term supply agreements – as well as its relations with countries that sit astride key geostrategic chokepoints – to secure passage. Beijing's belief that it requires such special relationships in order to assure its energy access could shape its defense strategy and force planning in the future. Indicators of such a shift would include increased investment in a blue-water capable fleet and, potentially, a more activist military presence abroad.

Figure 1. China's Energy Consumption.



Note: At left, the U.S. Department of Energy estimates China will consume 12.8 million barrels per day of oil by 2025. Some industry projections place this figure between 16-20 million barrels per day. Production figures are estimates. At right, based on 2003 data, China relied on coal for approximately two-thirds of its energy

Since the early 1980s, as former paramount leader Deng Xiaoping pressed forward with China's "reform and opening up," Chinese leaders have described their national development strategy as a quest to increase China's CNP. As China's leaders pursue national development, they must constantly assess the broader security environment, or "strategic configuration of power," for potential challenges and threats – as well as opportunities – that might prompt an adjustment in national strategy.

The "24 Character" Strategy

In the early 1990s, former paramount leader Deng Xiaoping (d. 1997) gave guidance to China's foreign and security policy apparatus that, collectively, has come to be known as the "24 character" strategy: *"observe calmly; secure our position; cope with affairs calmly; hide our capacities and bide our time; be good at maintaining a low profile; and never claim leadership."* Later, the phrase, "make some contributions (*you suo zuo wei*)" was added.

This strategy is often quoted by senior Chinese national security officials, especially as it relates to China's diplomacy. Although certain aspects of this strategy have been debated in recent years within China's security establishment – namely the relative emphasis placed upon "never claim leadership" or "make some contributions" – taken as a whole, the strategy suggests both a short-term desire to downplay China's ambitions and a long-term strategy to build up China's power to maximize options for the future.

The prospect of large-scale conflict, such as a war between China and Taiwan that included direct U.S. involvement, would likely prompt China's leaders to place the reestablishment of a favorable "strategic configuration of power" ahead of national development. Both Deng Xiaoping and Jiang Zemin indicated that in these circumstances, one of China's war aims would be to terminate the conflict on favorable terms as quickly as possible to refocus national resources on developing CNP. There is no evidence that China's new leaders' views on this point are any different.

In peacetime, we can expect China to pursue economic progress as part of its strategy to build comprehensive national power. It has established a goal of doubling by 2010 the size of its economy in 2000 and raising GDP per capita ($1,250 in 2004) to the levels of an "intermediate developed country" (roughly $3,400) by 2049. Chinese leaders value such progress for its own sake, as well as for the enhancements to military forces and national power this progress will allow. Moreover, in contrast to a "development first model," evidence suggests they seek to integrate the two to obviate, or at least minimize, traditional "guns vs. butter" trade-offs.

In May 2003, President Hu Jintao stated that: "it is necessary . . . to establish a mechanism of *mutual promotion and coordinated development* between national defense building and economic development." China's modernization indicates a buildup of armaments that reinforces this notion of coordinated, integrated civilian and military development.

Military Modernization . . . Beyond Taiwan

The Chinese military forms an important, and growing, part of Beijing's overall national strategy. China's leaders believe that control and use of the armed forces and other instruments of power are essential to ensure that the Party remains dominant, and that China can secure its borders, defend its territorial claims, and shape its security environment in a way that allows its continued economic growth and development. As China's economy expands, so too will its interests and the perceived need to build an armed force capable of protecting them. In its latest Defense White Paper, China notes that, "[t]he military factor plays a greater role in . . . national security," and, "[t]he role played by military power in safeguarding national security is assuming greater prominence."

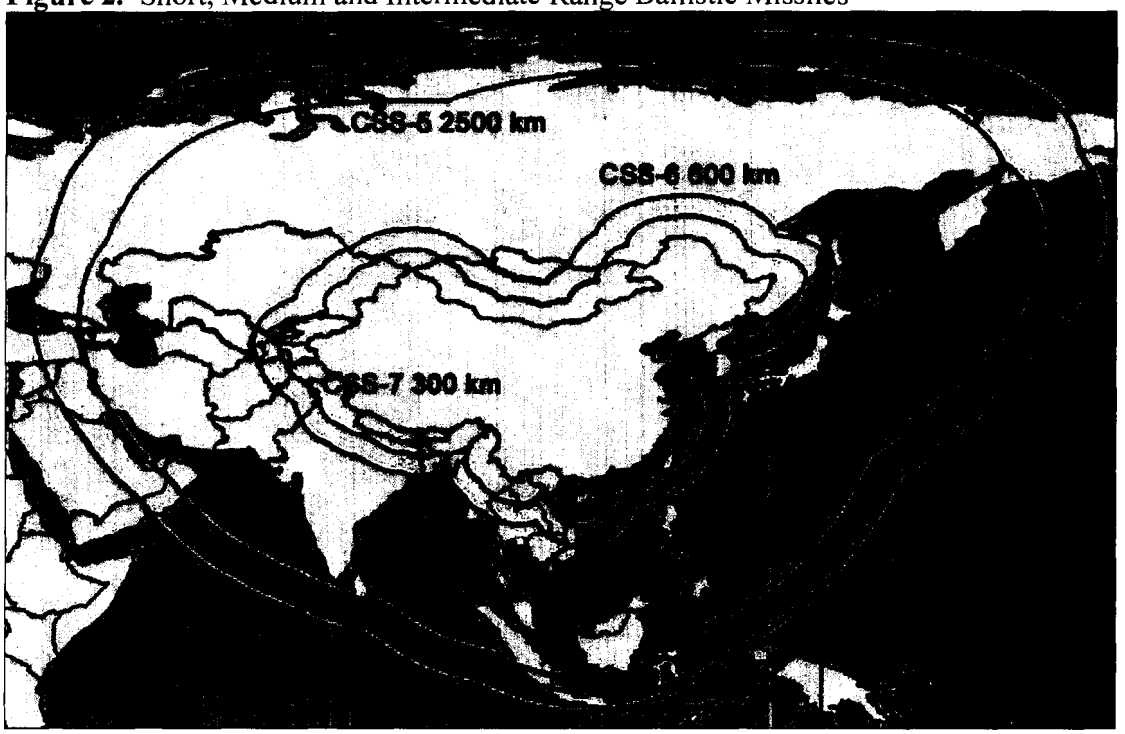
Consequently, although the principal focus of China's military modernization in the near term appears to be preparing for potential conflict in the Taiwan Strait, some of China's military planners are surveying the strategic landscape beyond Taiwan. Some Chinese military analysts have expressed the view that control of Taiwan would enable the PLA Navy to move its maritime defensive perimeter further seaward and improve Beijing's ability to influence regional sea lines of communication. Conversely, some of these analysts believe, the political status quo with Taiwan constrains China's ability to project power. General Wen Zongren, Political Commissar of the elite PLA Academy of Military Science, stated in a recent interview that resolving the Taiwan issue is of "far reaching significance to breaking international forces' blockade against China's maritime security. . . . Only when we break this blockade shall we be able to talk about China's rise. . . . [T]o rise suddenly, China must pass through oceans and go out of the oceans in its future development."

Analysis of Chinese military acquisitions also suggests the PLA is generating military capabilities that go beyond a Taiwan scenario. All of China's SRBMs, although garrisoned opposite Taiwan, are mobile and can deploy throughout the country to take up firing positions in support of a variety of regional contingencies. China is also developing new medium-range systems that will improve its regional targeting capability. There are corresponding improvements in intercontinental-range missiles capable of striking targets across the globe, including in the United States.

Similarly, China's air and naval force improvements – both complete and in the pipeline – are scoped for operations beyond the geography around Taiwan. Airborne early warning and control and aerial refueling programs for the PLA Air Force will extend the operational range for its fighter and strike aircraft, permitting extended operations into the South China Sea, for example. Naval acquisitions, such as advanced destroyers and submarines, reflect Beijing's pursuit of an "active offshore defense," to protect and advance its maritime interests, including territorial claims, economic interests, and critical sea lines of communication. Over the long-term, improvements in China's command, control, communication, computers, intelligence, surveillance, and reconnaissance (C4ISR) capability, including space-based and over-the-horizon

platforms, could enable Beijing to identify, target, and track foreign military activities deep into the western Pacific and provide, potentially, hemispheric coverage.

Figure 2. Short, Medium and Intermediate Range Ballistic Missiles



Note: China currently is capable of deploying ballistic missile forces to support a variety of regional contingencies.

Chinese forces have increased operations beyond China's borders and home waters, most notably the highly publicized intrusion of a HAN-class nuclear submarine last year in Japanese territorial waters during operations far into the western Pacific Ocean. After completing its first around-the-world cruise in July 2002, China continues to send its fleet abroad to show the flag and gain familiarity with open-ocean operations. Finally, China has increased participation in global peace operations. China now has some 1,000 peacekeepers abroad, including 500 attached to the UN Observer Mission in Liberia (UNOMIL), 230 with the UN Observer Mission in the Democratic Republic of the Congo (MONUC), and 125 as part of the UN Mission for Stabilization in Haiti (MINUSTAH).

China does not now face a direct threat from another nation. Yet, it continues to invest heavily in its military, particularly in programs designed to improve power projection. The pace and scope of China's military build-up are, already, such as to put regional military balances at risk. Current trends in China's military modernization could provide China with a force capable of prosecuting a range of military operations in Asia – well beyond Taiwan – potentially posing a credible threat to modern militaries operating in the region. China could accelerate its military development by using more of its civil production capacity for military hardware (industrial facilities for China's commercial ship-building – which now occupy about 10% of the global market in terms of dead

weight ton production – are co-located with military shipyards, for example) or by increasing purchases of advanced military hardware and technology from abroad.

Beijing has described its long-term political goals of developing comprehensive national power and of ensuring a favorable strategic configuration of power in peaceful terms. Themes include an emphasis on peace and development, the non-use of force in settling disputes, non-intervention in the internal affairs of other countries, the defensive nature of China's military strategy, a policy of no first use of nuclear weapons, and support for nuclear weapons-free zones.

Nevertheless, China's military modernization remains ambitious. In the recent past, moreover, military responses in support of Chinese claims to disputed territory or resource rights have produced crises and conflicts with China's neighbors, including India, Japan, the Philippines, the then-Soviet Union, and Vietnam. In the future, as China's military power grows, China's leaders may be tempted to resort to force or coercion more quickly to press diplomatic advantage, advance security interests, or resolve disputes.

CHAPTER THREE
CHINA'S MILITARY STRATEGY AND DOCTRINE

"You fight your way and I fight my way."
-- Mao Zedong

It is clear that China's leaders view the military instrument as playing a central role in support of national goals and objectives. China's strategy for the employment of the military to support these goals, or the conditions under which China's leaders would select military over non-military methods in problem-solving, however, are less clear.

China does not have a public document directly equivalent to the U.S. *National Military Strategy*. Outside observers, therefore, have few direct insights into central leadership thinking on the use of force. Based on analysis of authoritative documents, speeches, and writings, we can discern that China uses the term "active defense" to describe its national military strategy. "Active defense" posits a defensive military strategy and asserts that China does not initiate wars or fight wars of aggression, but engages in war only to defend national sovereignty and territorial integrity and attacks only after being attacked.

Beijing's definition of an attack against its territory, or what constitutes an initial attack, is left vague, however. In instances where Beijing's use of force involves core interests, such as Taiwan, it could claim, as it has in the past, that preemptive uses of force are strategically "defensive" in nature, such as the 1979 "counter-attack in self defense" against Vietnam. Consequently, the term "active defense" indicates little about when or how China would initiate hostilities. Once Beijing determines that hostilities have begun, evidence suggests the characteristics of "active defense" are distinctly offensive. The PLA text, *The Study of Campaigns* (*Zhanyi Xue*), published in 2000, explains:

> *While strategically the guideline is active defense, in military campaigns, though, the emphasis is placed on taking the initiative in active offense. Only in this way, the strategic objective of active defense can be realized.*

"Active defense" calls for forces to be postured to defend against perceived security threats. China's forces also seek to shape their security environment and prevent adversaries from engaging in actions contrary to China's national interests. Returning to the 1979 conflict with Vietnam, Beijing launched that invasion as a punitive measure to "teach Hanoi a lesson" following its incursion into Cambodia. China used military coercion short of war when it launched missiles into closure areas off Taiwan in 1995 and 1996 to pressure Taipei.

Assessments indicate that Beijing's capability for limited and relatively precise uses of force is growing. Since the 1990s, PLA strategists have discussed in professional journals the efficiency of limited applications of force to accomplish limited political goals. Advances in military technology provide Beijing with an expanded set of limited force options. Chinese operational-level military doctrine defines these options as "non-war" uses of force – an extension of political coercion and not an act of war.

Deception in Military Strategy

Over the past several decades, there has been a resurgence in the study of ancient Chinese statecraft within the PLA. Whole departments of military academies teach the precepts of *moulue*, or strategic deception, derived from Chinese experience through the millennia, particularly military aspects surrounding the dynastic cycle. Modern China also has a track record of successfully deceiving opponents. Through effective use of deception from the strategic to the tactical levels, China's intervention in the Korean War caught the United States by surprise. Similarly, India, the Soviet Union, and Vietnam, as well as many outside observers, did not anticipate Chinese incursions into the territories of those countries.

One might expect some secrecy in technological and weapon system development and tactical deception about the location of units. China's practice encompasses this and more. In recent years, for example, China rolled out several new weapon systems whose development was not previously known in the West.

Strategic Direction of PLA Modernization

PLA reform and reorganization started in the early 1980s, accelerated in the latter half of the 1990s, and will continue for the foreseeable future. The PLA is transforming from a mass army designed to fight a protracted war of attrition within its territory to a smaller, modern, professional force capable of fighting high-intensity, local wars of short duration against high-tech adversaries. PLA theorists and planners believe future campaigns will be conducted simultaneously on land, at sea, in the air, in space, and within the electronic sphere. The PLA characterizes these conflicts as "local wars under conditions of informationalization."

Local Wars Under the Conditions of Informationalization

In its December 2004 Defense White Paper, China authoritatively used a new term to describe the type of war the PLA must be prepared to fight and win: "local wars under the conditions of informationalization." By introducing this new term, the PLA effectively discarded "local wars under high-tech conditions," the concept that guided force structure developments for the better part of the last decade.

This new concept sums up China's experiences and assessments of the implications of the revolution in military affairs – primarily the impact of information technology and knowledge-based warfare on the battlefield. While appearing to reinforce many of the trends in China's force modernization that prevailed under "local wars under high-tech conditions," the implications of this new concept are not yet known.

The PLA desires to project joint conventional military power rapidly into its geographic frontier to meet the enemy at or beyond Chinese territory. It is modernizing in all

services and at all levels to build a force capable of meeting the requirements of future war, primarily through the improvement of the PLA's joint operational capabilities.

The PLA's ambition to conduct joint operations can be traced to lessons learned from U.S. and allied operations since the Persian Gulf War. Although the PLA has devoted considerable effort to develop joint capabilities, it faces a persistent lack of inter-service cooperation and a lack of actual experience in joint operations. The PLA hopes eventually to fuse service-level capabilities with an integrated C4ISR network, a new command structure, and a joint logistics system. The inclusion of service commanders on the Central Military Commission last year is an example of how China is strengthening inter-service cooperation to develop joint capabilities. The lack of experience in joint operations is a subset of the overall lack of operational experience in the Chinese force.

The PLA's future joint force has been influenced by U.S. capabilities and concepts and by Soviet/Marxist-derived characteristics of warfare, but will unlikely mirror either. For example, it appears that the PLA's concept of joint operations provides for coordination at or above the operational level of war. Since 2000, it has conducted some 14 multiservice exercises with "joint" characteristics and/or "joint" command and control, improving PLA experience levels, and yielding some insights into its future direction. These insights will become clearer as more advanced weapons, sensors, and platforms enter the inventory and training begins to reflect true multiservice operations. For a combination of technical and doctrinal reasons, the PLA has not demonstrated a capability to conduct U.S.-style joint operations, nor is it likely to do so in the near future.

Perceptions of Modern Warfare and U.S. Defense Transformation

China observes closely foreign military campaigns and defense modernization initiatives. The United States factors heavily in these observations as a model of how a modern military engages in modern warfare. China draws from U.S. military operations by adopting or emulating lessons in some areas, and in others, by identifying exploitable vulnerabilities in potential high-tech adversaries. In addition, U.S. defense transformation, as demonstrated by recent U.S. operations, has highlighted to China the expanding technological gap between modern military forces and those of developing countries. The 2004 Defense White Paper identifies the "technological gap resulting from the revolution in military affairs" as having a "major impact on China's security." These concerns have prompted China's leaders, including President Hu Jintao, to order the PLA to pursue "leap ahead" technologies and "informationalized" capabilities to increase the mobility, firepower, and precision of PLA weapons and equipment.

Operation DESERT STORM (1991) was a primary motivator behind China's efforts to prepare for future warfare. The PLA noted that the rapid defeat of Iraqi forces revealed how vulnerable China would be in a modern war. The Gulf War drove the PLA to update doctrine for joint and combined operations to reflect modern warfare and to accelerate reform and modernization. The Gulf War also spurred PLA debates on the implications

of the revolution in military affairs, and led China to seek modern C4ISR and to develop new information warfare, air defense, precision strike, and logistics capabilities.

Operation ALLIED FORCE (1999) had a similar impact on PLA thinking, although more as a validation of earlier assessments of the requirements of modern warfare than as a catalyst for change. NATO's air operations over Serbia provided the PLA insights into how a technologically inferior force could defend against a superior opponent. PLA observers noted how low-tech counter-reconnaissance and tactical deception measures, such as camouflage, decoys, dispersion, and frequent movement of forces could deny an adversary situational awareness and precision-strike capabilities. The air campaign reinforced the PLA's focus on passive defense measures such as hardening or burying high-value targets, shifting to fiber-optic communications, and concealing supply depots.

The PLA applied the most significant lessons from Operation ALLIED FORCE in a revised air defense training regime referred to as "Three Attacks, Three Defenses" (attack stealth aircraft, cruise missiles, and helicopters; defend against precision strikes, electronic warfare, and enemy reconnaissance). PLA theorists also began to conclude that airpower and long-range strike diminished the role of ground forces. These observations led to discussion of the value of precision air and missile strikes against leadership and command and control targets to isolate and "decapitate" the enemy, and thereby force a rapid capitulation with a minimum commitment of ground forces. These observations most likely led to accelerated development and deployment of more capable ballistic and cruise missiles and to acquisition of newer multi-role fighter aircraft to support an evolving doctrine for independent, strategic air operations.

The PLA is digesting coalition operations in Afghanistan and Iraq to gain a better understanding of the implications of modern war. At a minimum, it appears to have drawn new lessons on the application of UAVs for reconnaissance and strike operations, special forces for precision targeting, and the integration of psychological operations with air and ground operations to target leadership and communication nodes. PLA observers were impressed with weapon system integration and interoperability, and flexible logistic support to mobile operations.

In contrast to conclusions drawn from previous conflicts, Operation IRAQI FREEDOM appears to have prompted the PLA to rethink the notion that airpower and precision-strike technology alone are sufficient to prevail in a conflict. In June 2003, for example, Jiang Zemin noted: "the Iraq war has once again proven that under high-tech conditions, the factor determining the outcome of war is still human quality."

Observations of Operation IRAQI FREEDOM

In May 2003, PLA Deputy Chief of the General Staff Xiong Guangkai authored an article assessing the broad implications of Operation IRAQI FREEDOM for Chinese assessments of modern war. Some of his more salient observations follow:

-- **On gleaning lessons from coalition operations:** ". . . the trend of new military changes is developing rapidly in the world, and the recent Iraq war has reflected this trend. *We should not only profoundly research and analyze this trend but also actively push forward military changes with Chinese characteristics* according to our country's actual conditions."

-- **On precision strike:** ". . . the Iraq war reflected the tendency toward the development of informationalized weapons and equipment . . . more precision-guided munitions were used . . . military aerospace strength played an ever more important role [and there were] new developments in guided missiles. U.S. troops used as many as 90 military satellites, which provided continuous intelligence information and played a most important role in directing the war, especially in launching accurate attacks."

-- **On mobility**: "Either driving straight in along the south route or adopting air-mobility tactics along the north route reflected the fact that through more than 10 years of readjusting their establishment and system, the U.S. armed forces are ever smaller in number but ever more highly trained, are of a lighter type, and have an ever higher mobility."

-- **On integrated operations:** "The U.S. and British allied forces gave full expression to the joint warfare theory [and] *had all their arms and services to do everything possible to coordinate their actions in all directions and at all times to achieve rapid dominance on the battlefield*, and their actions included air strikes, ground attacks, sea-based missile launches, satellites and information warfare."

-- **On non-contact warfare:** "Under the conditions in which high-tech weapons and equipment have been continuously developing, the effect and importance of non-contact fighting have become increasingly clear, *but contact fighting is not to be ignored.*"

-- **On implications for the PLA:** "While studying this war, we should . . . pay attention to viewing issues from an overall view of development; we should note the general trend of new military changes in the world with information technology as the leading factor and not negate the role played by people only because the role of high-tech weapons is becoming increasingly conspicuous."

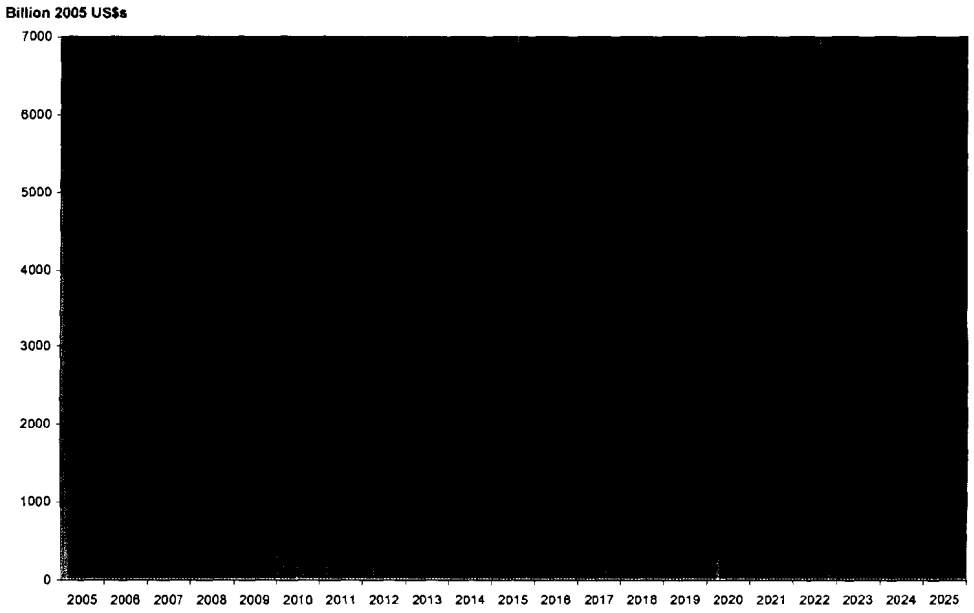
-- **Conclusion:** "We should push forward the military reform with Chinese characteristics, which means that *we should study and draw on the experiences and lessons of various countries in making military changes, including all the local wars fought under high-tech conditions, [but] we should not mechanically copy other countries' pattern of military changes.*"

CHAPTER FOUR
RESOURCES FOR FORCE MODERNIZATION

"The PLA learns from and draws on the valuable experience of foreign armed forces, and introduces, on a selective basis, technologically advanced equipment and better management expertise from abroad to advance the modernization of the Chinese armed forces."
-- China's National Defense in 2004

Continued economic growth and reform are essential to PLA modernization. In absolute terms, this translates into increased funding available for defense. Broad-based growth and modernization also expands China's economic capacities in industry, technology, and human resources, enabling its leaders to accelerate military modernization in relative terms, as well. If China is able to sustain past growth rates – a challenge due to projected demographic changes, maturation of the industrial and technology base, and persistent financial inefficiencies – its economy could expand to almost $6.4 trillion by 2025. For comparison purposes, in 2025 Russia's GDP is projected to be $1.5 trillion, Japan's $6.3 trillion, and the U.S., $22.3 trillion. Based on past patterns, China's defense sector will probably benefit from continued overall economic performance.

Figure 3. China's Projected GDP Through 2025 (Constant 2005 Prices)



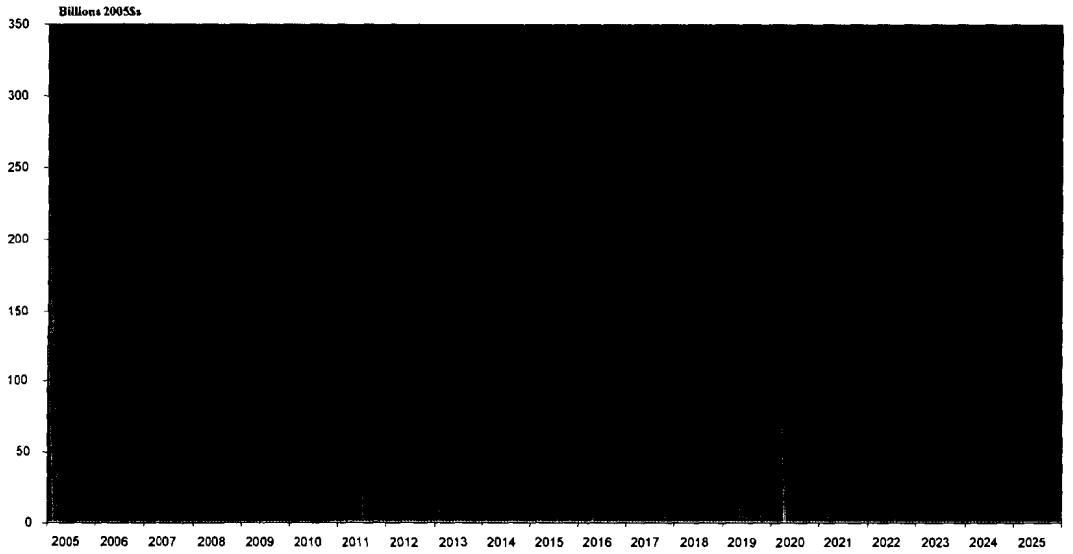
Source: Economist Intelligence Unit (EIU) and Global Insight.
Note: Projections, in constant 2005 dollars, place China's GDP at $2.6 trillion in 2010, $3.5 trillion in 2015, $4.8 trillion in 2020, and $6.4 trillion in 2025.

Defense Budget Trends

Tracking defense budgets is critical to understanding trends in China's military modernization as the budget reflects China's capability to generate military power from its economic base. Since the early 1990s, China has steadily increased resources for the defense sector. On March 4, 2005, a spokesperson for China's National People's Congress announced that China would increase its publicly disclosed defense budget in 2005 by 12.6 percent, to approximately $29.9 billion – double the figure for 2000. This year's increases continue trends that have prevailed for the past fifteen years of double-digit annual increases in China's published figures. When adjusted for inflation, the nominal increases have produced double-digit actual increases in China's official defense budget every year since the mid-1990s. However, the officially published figures substantially underreport actual expenditures for national defense.

The opacity of the PLA budgeting system precludes significant outside analysis. A further complication in the analysis of China's defense spending trends is the wide variation in methodologies (e.g., calculations based on market exchange rates, purchasing power parity, or a mixture of the two, and in varying proportions).

Figure 4. China's Projected Defense Expenditures to 2025



Source: Defense Intelligence Agency.
Note: Projections, in constant 2005 dollars, show low, medium, and high-end estimates of China's future defense spending.

According to some estimates, the official budget does not include foreign weapons procurement (up to $3.0 billion annually from Russia alone), expenses for the paramilitary People's Armed Police, funding to support nuclear weapon stockpiles and the Second Artillery, subsidies to defense industries, some defense-related research and

development, and local, provincial, or regional contributions to the armed forces. Combined, these additional monies could increase actual defense expenditures by two to three times the publicly available figure, suggesting the defense sector in China could receive up to $90.0 billion in 2005, making China the third largest defense spender in the world after the United States and Russia, and the largest in Asia.

Projecting out defense spending over a long period is problematic for the reasons cited above. Assuming that China's defense burden (proportion of defense expenditure as a percentage of GDP) remains constant, China's defense budget could rise three-fold or greater by 2025.

Defense Industry Trends

According to intelligence community estimates, China's defense industries are inefficient and dependent on foreign suppliers for key technologies. Exceptions are few, such as ballistic missile research, development, and production. China is reorganizing defense industry, modernizing industrial facilities, and acquiring foreign technology to develop and produce advanced weapons systems to support PLA modernization.

Civil-Military Integration

An important aspect of China's overall modernization strategy is civil-military integration. According to a recent RAND report, "China's leaders remain convinced that the integration of civilian and military production is the key to developing an advanced military. Although in the early 1980s the primary hope was that China's defense manufacturers would be able to use their technological capabilities to generate profits on civilian markets, today the principal hope seems to be that, through participation in commercial production, China's defense manufacturers will acquire dual-use technological capabilities." Civil-military integration, as noted in the 2004 Defense White Paper, "will adhere to the strategic guideline of combining military needs with civilian needs, reserving military potential within civilian capability...." Civil-military integration will exploit civil technological development for military application and maintain a pool of resources (people, material, facilities) to support modernization in peacetime and necessity in wartime.

Reorganization and Modernization. China is changing industrial organizations and business practices to encourage cooperation and collaboration among companies. These changes have implications across the domestic industrial base, but, significantly, indications are that they have enabled it to modernize and expand its defense industry across all sectors since the late 1990s to increase production capacity, develop and produce new or upgraded weapons, and modernize production processes. These infrastructure improvements could enable China to produce higher-quality equipment more rapidly and efficiently.

China's space launch vehicle industry is expanding to support the national emphasis on satellite launch capability and the manned space program. Aircraft manufacturing plants and naval shipyards have increased production floor space to support new military programs and accommodate additional work from commercial contracts and joint

ventures. China continues to expand its research, development and testing capabilities, particularly at universities and research institutes.

China is also modernizing key basic industries, such as strategic metals, by building new facilities and equipping them with advanced manufacturing technologies, often purchased for civil purposes. This has enabled Chinese firms to produce specialty metals and alloys used in a variety of defense and commercial industries. Joint ventures in China now manufacture semiconductors and integrated circuits used in military computers, missile guidance systems, communications and electronic warfare equipment, and radar systems.

Acquisition Guidance

Beijing's approach to technology acquisition is called the "Three-Ways Policy": 1) foreign import, 2) joint development (China plus a foreign entity), and 3) domestic development. Beijing would prefer to produce systems indigenously, but is not yet capable and must rely heavily on foreign sources. Priorities for technology acquisition – microelectronics, nanotechnology, space systems, innovative materials, propulsion systems, missile systems, computer-aided manufacturing and design, and information technologies – mirror those identified in the outline documents for China's current five-year plan (2001-2005).

Importing Solutions from Russia and the West. Over the past decade, Russia and Israel have been China's primary foreign sources of weapon systems and military technology. Russia has supplied over 85% of all of China's arms imports since the early 1990s and has been a significant enabler of China's military modernization. According to the Defense Intelligence Agency, Russian conventional weapon technology transfers, including better aircraft, quieter submarines, and more advanced munitions, have advanced the lethality of every major category of weapon system under development in China.

As China's defense industries continue to mature, Beijing is purchasing from abroad systems to meet near-term requirements. For example, China received deliveries of Su-30MK2 multi-role FLANKER aircraft in 2004 to fill a gap until the F-10 or a license-produced multi-role FLANKER could be deployed. China is also purchasing the Russian AL-31FN aero-engine for the F-10 fighter, while working on an indigenously produced turbofan engine. China received advanced Russian SA-10 and SA-20 SAM systems as interim air defense solutions while it develops its own. The purchase of KILO-class diesel electric submarines and SOVREMENNYY-class destroyers from Russia helped equip the PLA Navy with modern systems while China produces its own SONG-class diesel electric submarine and LUYANG-class destroyers. China will likely acquire additional Su-30MK2, IL-76 transport planes, and IL-78 MIDAS air refueling aircraft from Russia during 2005.

China also cooperates with Russia on licensed production and technical advice. To acquire a modern, fourth generation fighter, China contracted with Russia to license-produce the Su-27SK/F-11 FLANKER. In 2004, China requested to renegotiate the last

half of this contract to build a multi-role version of the FLANKER, the Su-27SMK. Russia and China reportedly are cooperating on the seeker, rudder control actuation system design, and inertial navigation system for the PL-12 air-to-air missile, which continued testing in 2004. In 2004, China launched a new class of submarine, which appears to incorporate Russian design characteristics, including possible air independent propulsion, greatly increasing submerged endurance. China received help from Russia on a turret for a new infantry fighting vehicle. Russian design features also appear in a new multiple launch rocket system, the A-100.

Although Israel began the process of canceling the PHALCON program with China in 2000, Beijing continues to pursue an AWACs variant built on an IL-76 airframe. The Israelis transferred HARPY UAVs to China in 2001 and conducted maintenance on HARPY parts during 2003-2004.

China receives assistance from other nations too. For example, in 2001, China bought British Spey Mk202 engines to install on the FB-7 fighter-bomber until a license-produced version could be manufactured. Italy and France may be assisting China with a new medium-lift helicopter. Over the last thirty years, China also has benefited from the sale of munitions and dual-use use technologies from France, Germany, Italy, and the United States.

Strengths and Weaknesses: China has invested in its human resources. Improved technical education – including Western education – is providing positive feedback to China's defense industrial sector. On the other hand, quality and innovation remain weaknesses. Chinese industry is still learning the importance of reliability and repeatability. China has not yet demonstrated the ability or innovation to go through a research, development, and acquisition process for a sophisticated weapon system without foreign assistance. Also, many of the new and upgraded facilities are hampered by inadequate electrical power generation and distribution systems. Raw materials are backlogged by inadequate road, rail, and port services. Finally, China's strategic metals industry relies on imported raw materials and foreign mining and production facilities.

Implications of Lifting the EU Arms Embargo

The effort by the European Union in 2004 to lift its arms embargo on China – in place since the 1989 Tiananmen Square crackdown – followed intense lobbying by China to remove the ban, which it refers to as a "relic of the Cold War." The consequences of an EU arms embargo lift would be serious and numerous. Although the EU stated that any lifting of the embargo would produce no qualitative or quantitative increases in China's military capabilities, the EU's tools to enforce such a commitment remain inadequate. Lifting the embargo could allow China access to military and dual-use technologies that would help China to improve current weapon systems and to improve indigenous industrial capabilities for production of future advanced weapons systems. Ending the embargo could also remove implicit limits on Chinese military interaction with European militaries, giving China's armed forces broad access to critical military "software" such

as modern military management practices, operational doctrine and training, and logistics expertise.

If the embargo is lifted, China's strategy will likely center on establishing joint ventures with EU companies as a means to acquire access to expertise and technology. China can be expected to move slowly to avoid undermining its position that the embargo was merely symbolic. Even if China were to move quickly, its defense industries would require time to integrate new technologies, processes, and know-how into weapons manufacturing or retro-fits. In the medium to long term, however, the acquisition of European defense technology would significantly improve PLA capabilities. China is most likely interested in acquiring advanced space technology, radar systems, early-warning aircraft, submarine technology, and advanced electronic components for precision-guided weapons systems.

Lifting the EU embargo would also lead to greater foreign competition to sell arms to the PLA, giving Beijing leverage over Russia, Israel, and other foreign suppliers to relax limits on military sales to China. Potential competition from EU countries already may have prompted Russia to expand the range of systems it is willing to market to China. In 2004, Russia provided a new version of the FLANKER, the Su-30MK2, to China and signed a contract to sell S-300PMU2 SAM systems. The Su-30 aircraft features an enhanced radar system and is equipped with long-range R-77 and R-27 missiles, enhancing the capability of China's air forces to conduct over-the-horizon and beyond-visual-range attacks. Russia is also discussing the sale of advanced conventional submarine co-production rights to China in anticipation of competition from the EU.

Such an acceleration of China's military modernization would have direct implications for stability in the Taiwan Strait and the safety of U.S. personnel; it would also accelerate a shift in the regional balance of power, affecting the security of many countries.

Finally, Beijing's track record in transfers of conventional arms and military technologies suggests EU or other third-party sales to China could lead to improvements in the systems that Chinese companies market abroad, including to countries of concern, such as Iran. Of note, some of China's major recipients of military assistance – Burma, Sudan, and Zimbabwe – all are subject to EU arms embargoes.

CHAPTER FIVE
FORCE MODERNIZATION GOALS AND TRENDS

"We should draw on the experiences in new military changes of the world and seize the opportunities to achieve leapfrog development in national defense and army modernization."

-- President Hu Jintao, May 2003.

"We should achieve developments by leaps and bounds in the modernization of weaponry in our armed forces."

-- Gen Li Jinai, then-Director, PLA General Armaments Department, August 2004.

Overview

China has stated its intentions and allocated resources to pursue force-wide professionalization, improve training, conduct more robust, realistic joint exercises, and accelerate acquisition of modern weapons. The U.S. Intelligence Community estimates that China will require until the end of this decade or later for its military modernization program to produce a modern force, capable of defeating a moderate-size adversary.

Meanwhile, China's leaders appear to recognize the PLA's deficiencies relative to potential adversaries in the region and may have concluded that the PLA is presently unable to compete directly with other modern military powers. We assess that this conclusion might have given rise to a priority emphasis on asymmetric programs and systems to leverage China's advantages while exploiting the perceived vulnerabilities of potential opponents – so-called Assassin's Mace (*sha shou jian*) programs.

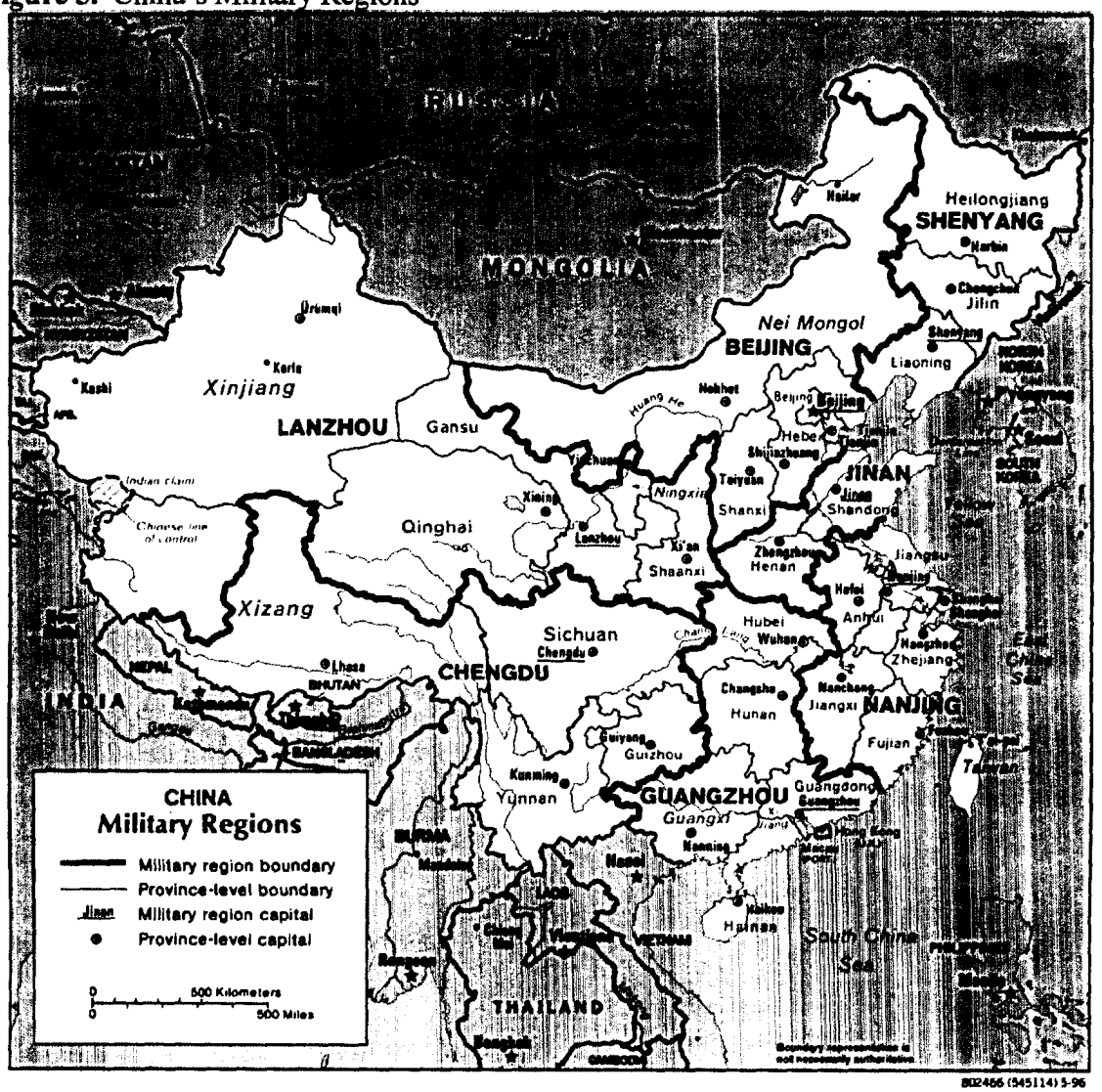
Consequently, as PLA modernization progresses, there are twin misperceptions that may lead to miscalculation or crisis. First, other countries may underestimate the extent to which Chinese forces have improved. Second, China's leaders may overestimate the proficiency of their forces by assuming that new systems are fully operational, adeptly operated, adequately supplied and maintained, and well integrated with existing or other new capabilities.

The following sections explore advances in Chinese military modernization in the areas of: nuclear deterrence, precision strike, expeditionary operations, air defense, anti-access, lines of communication protection, joint logistics, space and counter-space, and computer network operations.

China's Armed Forces at a Glance

China has the largest military in the world. China's military comprises four services: ground forces (PLA), naval forces (PLAN, includes marines and aviation components), air forces (PLAAF, includes airborne forces), and strategic missile forces (Second Artillery). Following downsizing this year, the active force will total some 2.3 million personnel. A fifth element consists of the paramilitary People's Armed Police (PAP) and reserves. The combined total, distributed across seven military regions, exceeds 3.2 million. China also has some 10 million organized militia members throughout the country.

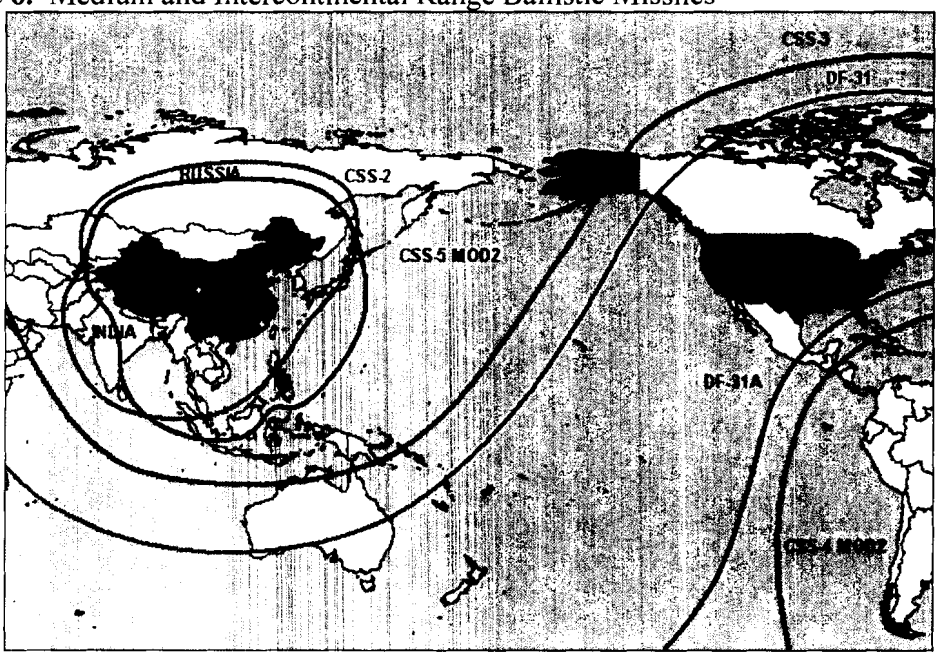
Figure 5. China's Military Regions



Nuclear Deterrence

China is qualitatively and quantitatively improving its strategic missile force. This could provide a credible, survivable nuclear deterrent and counterstrike capability. It is fielding more survivable missiles capable of targeting India, Russia, virtually all of the United States, and the Asia-Pacific theater as far south as Australia and New Zealand. Beijing maintains a small strategic arsenal. Its stated nuclear weapons doctrine remains one of "no first use."

Figure 6. Medium and Intercontinental Range Ballistic Missiles



Note: China currently is capable of targeting its nuclear forces throughout the region and most of the world, including the continental United States. Newer systems, such as the DF-31 and DF-31A, will give China a more survivable nuclear force.

China's future strategic force will likely comprise enhanced silo-based CSS-4 ICBMs (currently deployed), solid-fueled, road-mobile DF-31 (initial operational capability 2005-06) and DF-31A ICBMs (IOC 2007-09), and sea-based JL-2 SLBMs (IOC 2008-10). China will also maintain a force of nuclear-armed CSS-5 MRBMs for regional contingencies.

China currently deploys approximately twenty silo-based, liquid-propellant CSS-4 ICBMs, which constitute its primary nuclear deterrent. The Second Artillery also maintains approximately twenty liquid-fueled, more limited-range CSS-3 ICBMs to sustain its regional nuclear deterrent. The Second Artillery will likely keep this older missile in service until it is replaced by the more survivable, road-mobile DF-31. China supplements the aged CSS-2s with solid-propellant, road-mobile CSS-5 MRBMs.

The introduction of the road-mobile DF-31-series ICBMs will supplement China's silo-based strategic force. The mobility of the new DF-31-class missiles will enable these systems to operate over a larger area, making them more difficult to locate and neutralize. The introduction of a new generation of SLBMs on China's new ballistic-missile submarine will provide an additional survivable nuclear option. Finally, replacement of the older, silo-based CSS-4 Mod 1 with the longer range CSS-4 Mod 2, coupled with the ongoing migration to mobile, solid-fueled systems will enhance the operational capabilities and survivability of China's strategic missile force.

Precision Strike

The PLA envisions the use of precision strike to hold at risk such targets as Western Pacific airbases, ports, surface combatants, land-based C4ISR and integrated air defense systems, and command facilities. Most of the PLA units associated with precision strike are rapid reaction units and/or those that would likely lead any contingency operation around the mainland periphery.

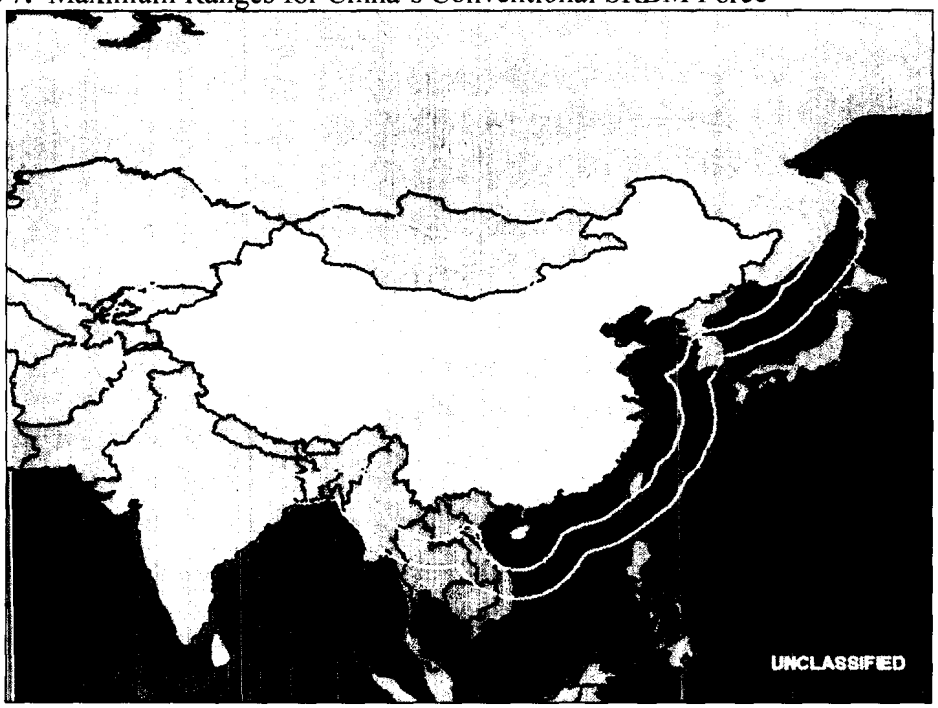
- ***Short-Range Ballistic Missiles (SRBMs) (conventionally armed).*** China's SRBM force constitutes the bulk of its precision strike capability. Its first-generation SRBMs do not possess true "precision strike" capability, but later generations have greater ranges and improved accuracy. According to DIA estimates, China's SRBM force totals some 650-730 missiles, increasing at a rate of 75 to 120 missiles per year.

- ***Land-Attack Cruise Missiles (LACMs) (conventionally armed).*** China is developing LACMs to achieve greater precision than historically available from ballistic missiles for hard target strikes, and increased standoff. A first- and second-generation LACM remain under development. There are no technological bars to placing on these systems a nuclear payload, once developed.

- ***Air-to-Surface Missiles (ASMs).*** China is believed to have a small number of tactical ASMs. China is pursuing foreign and domestic acquisitions to improve airborne anti-ship capabilities.

- ***Anti-Ship Cruise Missiles (ASCMs).*** The PLA Navy and Naval Air Force have or are acquiring nearly a dozen varieties of ASCMs, from the 1950s-era CSS-N-2/STYX to the modern Russian-made SS-N-22/SUNBURN and SS-N-27/SIZZLER. The pace of indigenous ASCM research, development, and production – and of foreign procurement – has accelerated over the past decade. Objectives for current and future ASCMs include improving closure speed (e.g., ramjet propulsion, such as with the SS-N-22), standoff distance (e.g., longer-range assets, such as the C-802), and stealthier launch platforms (e.g., submarines). SS-N-22 missiles may be fitted on smaller platforms in the future (e.g., the Russian Molniya patrol boat, which originated as a joint effort with China, or on the new stealth fast attack patrol boat).

Figure 7. Maximum Ranges for China's Conventional SRBM Force



Note: China's conventionally armed SRBM missiles opposite Taiwan are mobile and can be redeployed to support a variety of regional conflict scenarios.

- ***Anti-Radiation Weapons (ARMs).*** The size and scope of China's anti-radiation weapons inventory remains unknown. The PLA has imported both the Israeli-made HARPY UAV and Russian-made anti-radiation missiles. China's doctrine calls for seizing "electromagnetic superiority" early in a conflict. Acquiring anti-radiation weapons – designed to acquire targets based on the targets' own radar emissions – supports this doctrine and is consistent with Chinese theories on "informationalized" warfare.

Expeditionary Operations

PLA expeditionary forces include three airborne divisions, two amphibious infantry divisions, two marine brigades, about seven special operations groups, and one regimental-size reconnaissance element in the Second Artillery.

The PLA is focusing modernization for these units on procuring more equipment, improving unit-level tactics, and coordination of joint operations. PLA ground forces in the Nanjing and Guangzhou Military Regions have received upgraded amphibious armor and other vehicles, such as tanks and APCs, and may add armored assault vehicles and air-cushioned troop vehicles to improve lethality and speed for seaborne assaults. Airborne forces will likely acquire more modern transport aircraft like the Russian

IL-76/CANDID and modern airmobile light weight vehicles. The PLA recently increased amphibious ship production to address its lift deficiencies – although the intelligence community believes these increases will be inadequate to meet requirements – and is organizing its civilian merchant fleet and militia, which, given adequate notification, could augment the PLA's organic lift in amphibious operations.

Notional missions for these forces include: special operations forces to facilitate amphibious operations and to disrupt critical communication nodes, air defense capabilities, and critical lines of communication; airborne to seize airfields to facilitate the flow of follow-on infantry forces; and, Second Artillery reconnaissance elements to provide targeting information and battle damage assessments.

Combined training for all these units is seldom conducted in a major amphibious assault exercise. Units tend to train for their missions in garrisons, local areas and regional training facilities. China's ability to integrate individual unit actions – or simulate integration – to assess accurately operational capability, is not known.

Trends in Ground Forces Modernization

Following planned force reductions and reorganizations, mechanized infantry, armored, and army aviation units will make up a much larger percentage of the ground force. China is also increasing the capabilities of reserve and militia units, and exploring ways to outsource some combat service support functions and use civilian assets, such as ships and aircraft, to support military operations. The fielding of new equipment for the ground forces has been limited, compared to the other services which are more technology intensive. Even with downsizing and the consolidation of ground forces into fewer units, the army remains too large to effect rapid modernization throughout its force structure.

Air Defense

The PLA has shifted from point defense of key military, industrial, and political targets to a new Joint Anti-Air Raid Campaign doctrine based on a modern, integrated air defense system capable of effective offensive counter-air (OCA) and defensive counter-air (DCA). Under this doctrine, the PLA will use aircraft, surface-to-surface missiles, long-range artillery, special operations forces, naval forces, and guerrilla units to destroy an enemy's ability to conduct offensive air operations and provide comprehensive defense of Chinese airspace.

Beijing has been acquiring foreign and domestic fourth generation tactical aircraft (e.g., Su-27 and Su-30 FLANKER variants, and the PLA's indigenous F-10, which will begin to enter service in 2005). The PLA has also acquired advanced air-to-surface missiles that will allow its air forces to attack surface targets, afloat and ashore, from greater distance and with more precision. Newer aircraft are also being equipped with advanced air-to-air missiles and electronic warfare technology that give these aircraft technological parity with or superiority over most potential adversaries.

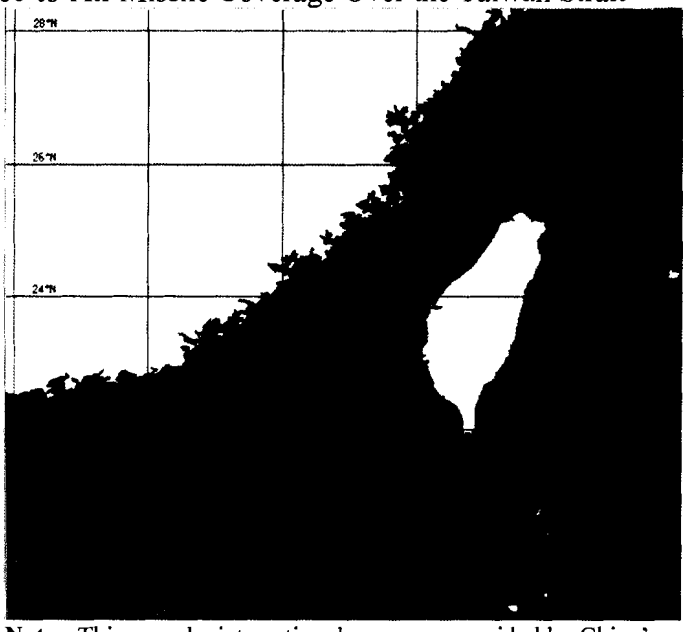
Trends in Air Force Modernization

The PLA Air Force is replacing older fighters with 3rd and 4th generation aircraft outfitted with long-range, precision strike weapons for land attack and anti-ship missions and, in some of these aircraft, in-flight refueling capabilities, which when fully operational, will extend operating limits. Acquisition and production of AWACS aircraft and the purchase of additional refueling aircraft will significantly extend the ranges of the modern air fleet.

China is still developing the FB-7, an all-weather, supersonic, medium-range fighter-bomber to have an anti-ship mission. Improvements to the FB-7 most likely will include a better radar, night-attack avionics, and advanced weapons. China is improving the capabilities of its special-mission aircraft, with a focus on electronic warfare, C4ISR, and aerial refueling. China reportedly modified several of its larger aircraft for jamming missions, and likely has several programs for new standoff and escort jammers using bombers, transports, tactical aircraft, and UAVs. In addition, China is pursuing domestic upgrades to its F-8II fighters, and has nearly completed development and testing of an upgraded FBC-1 long-range fighter/attack aircraft.

The type and number of modern SAMs in Beijing's inventory is increasing with the acquisition of Russian-made strategic SA-10 and SA-20 systems. China is reverse-engineering its own version of the SA-10, the HQ-9, which has yet to enter the inventory. China will likely acquire the extended range S-300PMU2 system in 2006. Acquisition and deployment of the S-300PMU2 would allow China's air defenses to engage aircraft over Taiwan.

Figure 8. Surface-to-Air Missile Coverage Over the Taiwan Strait



Note: This map depicts notional coverage provided by China's SA-10, SA-20 SAM systems, as well as the soon-to-be acquired S-300PMU2. Actual coverage would be non-contiguous and dependent upon precise deployment sites.

Anti-Access

Preventing foreign military intervention, particularly along China's coast, has been a goal for Beijing throughout history, reinforcing the geostrategic value of Taiwan for China's security planners. As the Soviet threat ebbed in the late 1980s, China's concern about its 9,000 mile coastline rose. China's concept of sea denial in the Western Pacific subsequently broadened beyond the independent use of naval assets to multi-dimensional defense using air, surface, and subsurface elements. Reflecting the emphasis China appears to be placing on anti-access strategies, most of the capabilities believed to fall under the Assassin's Mace program are designed to blunt adversaries' military advantages or deny entry into the theater of operations.

China is developing capabilities to achieve local sea denial, including naval mines, submarines, cruise missiles, and special operations forces. Beijing is in serial production of the domestic SONG-class submarine, acquiring more Russian KILO-class submarines, developing a new YUAN-class conventional submarine, and developing the Type-093 nuclear attack submarine for missions requiring greater at-sea endurance. China is also researching the possibility of using ballistic missiles and special operations forces to strike ships or their ashore support infrastructure. Finally, China is developing or improving counter-reconnaissance and counterspace capabilities using a range of solutions from low-tech denial and deception based on camouflage, cover and concealment, to high-tech lasers and space-tracking devices.

China does not appear to have broadened its concept of operations for anti-access and sea denial to encompass sea control in waters beyond Taiwan and its immediate periphery. If China were to shift to a broader "sea control" strategy, the primary indicators would include: development of an aircraft carrier, development of robust anti-submarine warfare capabilities, development of a true area anti-air warfare capability, acquisition of large numbers of nuclear attack submarines, development of effective maritime C4ISR, and increased open water training.

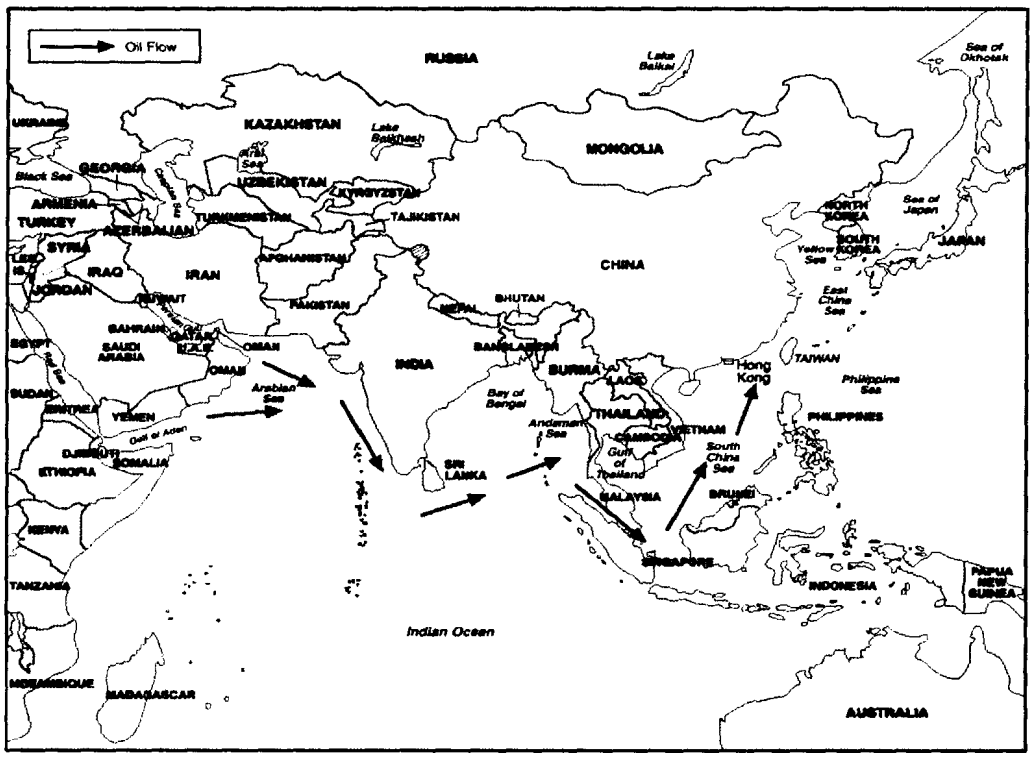
Protecting Vital Lines of Communication

China's expanding international presence reflects a growing interest in export markets and imports of key resources, especially energy. As China's economy grows, it will become increasingly concerned with securing resource flows along key lines of communication. For example, 80 percent of China's oil imports pass through the Strait of Malacca. In late 2003, President Hu referred to China's need to secure its lines of communication as the "Malacca Dilemma."

With its present force structure, according to the Intelligence Community, Chinese surface combatants would have difficulty projecting power into the Strait of Malacca, especially if it were conducting simultaneous blockade or invasion operations elsewhere. Similarly, although the PLA Navy occasionally patrols as far as the Spratly Islands, its limited organic air defense capability leaves surface ships vulnerable to attack from

hostile air and naval forces. The PLA Navy Air Force and PLA Air Force currently lack the operational range to support PLA Navy operations. In recent years, however, the PLA Navy's South Sea Fleet, which has operational responsibility over the South China Sea, has been assigned more capable surface combatants and submarines, including two destroyers (one LUDA IV class and one LUHAI class) that provide it with its first short-range area air-defense capability, the HHQ-7C surface-to-air missile systems.

Figure 9. China's Critical Sea Lines of Communication



Note: In 2004, over 80 percent of Chinese crude oil imports transited the Straits of Malacca, with less than 2 percent transiting the Straits of Lombok.

Joint Logistics

China's logistics reform features the integration of the civil sector with the military procurement system as a modern adaptation of "people's war." Under this concept, the PLA will acquire common and dual-use items on the market. Increasing numbers of logistics functions will be outsourced, especially when civilian industry can perform similar functions at lower costs. In addition, the PLA is placing greater emphasis on the mobilization of the civilian economy, both in peacetime and in war, to support national defense in industry, agriculture, communication and transport, science and technology, medical care and health, urban construction, commerce and trade, and finance.

Since 2000, China has improved the structure, material coordination, and efficiency of its joint logistics system. However, the command system is still not compatible with the

support system, and organization and planning is incompatible with supply management. The first experimental joint logistics unit was created only in July 2004.

Space and Counterspace

Beijing has focused on building the infrastructure to develop advanced space-based C4ISR and targeting capabilities. Building a modern ISR architecture is likely one of the primary drivers behind Beijing's space endeavors and a critical component of its overall C4ISR modernization efforts. Beijing's ongoing space-based programs with potential military applications include:

- China launched its first manned spacecraft into Earth orbit on October 15, 2003. Chinese press reports indicate that it will send up a two-person crew on a five-day mission in September 2005.

- China has two remote-sensing satellite programs known as Ziyuan-1 (ZY-1), also known as the China-Brazil Earth Resources Satellite, and ZY-2. China launched the ZY-1B in October 2003. A third ZY-2 satellite was launched in October 2004. ZY-2 payloads probably are digital imagery reconnaissance satellites and have worldwide coverage. Beijing also tested new film-based imagery satellites and small digital imagery satellites in 2003 and 2004.

- China is interested in electronic intelligence (ELINT) or signals intelligence (SIGINT) reconnaissance satellites. Although these digital data systems probably will be able to transmit directly to ground sites, China may be developing a system of data relay satellites to support global coverage. Furthermore, Beijing has acquired mobile data reception equipment that could support more rapid data transmission to deployed military forces and units.

- China is studying and seeking foreign assistance on small satellites. It has launched a number of them, including an oceanographic research satellite, Haiyang (HY)-1, in 2002 with at least two more satellites in this series, HY-2 and -3, expected. Beijing launched four small satellites during 2004; two of these probably have imagery missions and the other two possibly are conducting space environmental research. Other missions for satellites of this class include Earth observation, communications, and navigation.

- China is developing microsatellites – weighing less than 100 kilograms – for remote sensing and networks of electro-optical and radar satellites. In April 2004 Beijing launched a microsatellite with a probable imagery mission.

- A joint venture between China's Tsinghua University and the UK's University of Surrey is building a constellation of seven minisatellites – a class of satellites weighing between 101 and 500 kilograms – with 50-meter-resolution remote-sensing payloads. Later satellites in the series probably will have improved resolution.

Trends in Space Modernization

China seeks to become a world leader in space development and maintain a leading role in space launch activity. Beijing's goal is to place a satellite into orbit "within hours upon request." The Long March series of rockets can support that requirement as long as adequate satellites remain in reserve. With ever-better satellites, China is becoming a peer in quality to the world's leading producers. In manned space, after the two-person mission scheduled for this fall, China hopes to conduct space walks and docking missions with a space lab by 2010, followed by a full space station by 2020.

In 2004, China placed 10 satellites into orbit, the most of any year, and has a similar schedule through 2006. It hopes to have more than 100 satellites in orbit by 2010, and launch an additional 100 satellites by 2020. In the next decade, Beijing most likely will field radar, ocean surveillance, and improved film-based photo-reconnaissance satellites. China will eventually deploy advanced imagery, reconnaissance, and Earth resource systems with military applications. In the interim, China probably will supplement existing coverage with commercial SPOT, LANDSAT, RADARSAT, Ikonos, and Russian satellite imagery systems.

Anti-Satellite Weapons (ASATs). China is working on, and plans to field, ASAT systems. Beijing has and will continue to enhance its satellite tracking and identification network – the first step in establishing a credible ASAT capability. China can currently destroy or disable satellites only by launching a ballistic missile or space-launch vehicle armed with a nuclear weapon. However, there are many risks associated with this method, and consequences from use of nuclear weapons. China is also conducting research to develop ground-based laser ASAT weapons. Based on the level of Chinese interest in this field, the Defense Intelligence Agency believes Beijing eventually could develop a laser weapon capable of damaging or destroying satellites. At lower power thresholds, Chinese researchers may believe that low-energy lasers can "blind" sensors on low-Earth-orbiting satellites; whether Beijing has tested such a capability is unclear.

Computer Network Operations

China's computer network operations (CNO) include computer network attack, computer network defense, and computer network exploitation. The PLA sees CNO as critical to seize the initiative and "electromagnetic dominance" early in a conflict, and as a force multiplier. Although there is no evidence of a formal Chinese CNO doctrine, Chinese theorists have coined the term "Integrated Network Electronic Warfare" to describe the Chinese approach. This concept outlines the integrated use of electronic warfare, CNO, and limited kinetic strikes against key C4 nodes to disrupt the enemy's battlefield network information systems. The PLA has likely established information warfare units to develop viruses to attack enemy computer systems and networks, and tactics to protect friendly computer systems and networks. The PLA has increased the role of CNO in its military exercises. Although initial training efforts focused on increasing the PLA's proficiency in defensive measures, recent exercises have incorporated offensive operations, primarily as first strikes against enemy networks.

CHAPTER SIX
PRC FORCE MODERNIZATION AND SECURITY IN THE TAIWAN STRAIT

> *"Should the Taiwan authorities go so far as to make a reckless attempt that constitutes a major incident of 'Taiwan independence,' the Chinese people and armed forces will resolutely and thoroughly crush it at any cost."*
>
> -- *China's National Defense in 2004*

The cross-Strait balance of power is shifting toward Beijing as a result of China's economic growth, growing diplomatic leverage, and improvements in the PLA's military capabilities, including those that provide Beijing options short of full-scale invasion. Chinese air, naval, and missile force modernization is increasing demands on Taiwan to develop countermeasures that would enable it to avoid being quickly overwhelmed.

In contrast, Taiwan defense spending has steadily declined in real terms over the past decade. Taiwan has traditionally acquired capabilities, some asymmetric, to deter an attack by making it too costly, while buying time for international intervention. Taipei is continuing to acquire such capabilities, but the growth of PLA capabilities is outpacing these acquisitions.

The U.S. Government has made clear that it supports negotiation of a peaceful resolution and opposes unilateral changes to the status quo. Yet, Beijing's sustained military build-up in the area of the Taiwan Strait affects the status quo. As a result, consistent with the provisions of the Taiwan Relations Act (P.L. 96-8 (1979)), President Bush in April 2001 approved the sale of key systems to correct growing imbalances in critical areas such as missile and air defense and anti-submarine warfare. A $15.3 billion Special Budget for the purchase of Patriot PAC-III air defense systems, P-3C Orion anti-submarine aircraft, and diesel attack submarines is now before the Taiwan Legislative Yuan.

China's Strategy in the Taiwan Strait

Beijing views unification as a long-term goal. Its immediate strategy is focused on deterring Taiwan from moving toward *de jure* "independence." Its approach to preventing Taiwan independence is multi-faceted, integrating political, economic, cultural, and military instruments to coerce and shape Taiwan's behavior. Beijing insists that Taipei accept the "one-China" principle, i.e., that there is but one China and Taiwan is a part of it, as a precondition to any cross-Strait dialogue.

Anti-Secession Law

On March 14, 2005, China's legislature, the National People's Congress, passed the "anti-secession law." The law's passage followed months of speculation by outside observers over its contents and a simultaneous lobbying effort on the part of Chinese officials to cast the law in benign terms, while closely guarding the draft of the text. The law itself is broken into ten articles that codify, or render as legal instruments, policies and statements applied by the Chinese government to the Taiwan question. Key elements are described below.

Article One establishes that the law was formulated for the purpose of "opposing and checking Taiwan's secession from China."

Article Two restates Beijing's "One China" definition – Taiwan is part of China – and that China "shall never allow" Taiwan to secede from China "under any name or by any means."

Article Three asserts that the Taiwan matter is part of China's internal affairs and is subject to "no interference by outside forces."

Article Four states that China's reunification is the "sacred duty" of "all Chinese people," including "Taiwan compatriots."

Article Five reiterates China's position that acceptance of "One China" is a necessary pre-condition for peaceful resolution. It does not refer to the "one country, two systems" model, but claims Taiwan would "practice systems different from those on the mainland."

Article Six enumerates the steps Beijing is willing to take to realize peaceful unification, such as expanding cross-Strait exchanges, including cultural, economic, educational, science and technology, health, and sports exchanges. It also refers to "other activities" conducive to peace and stability, but does not offer details.

Article Seven specifies the range of issues that would be subject to negotiation during cross-Strait consultations. The article states such negotiations would be on an "equal footing."

Article Eight states the State Council and CMC "shall decide on and execute" non-peaceful means to "protect China's sovereignty and territorial integrity" if "secessionist forces . . . cause the fact of Taiwan's secession from China," if "major incidents entailing Taiwan's secession" occur, or if "possibilities for peaceful reunification" are exhausted.

Article Nine provides that during conflict, China will "exert its utmost" to protect lives, property, and rights of Taiwan civilians and foreign nationals on Taiwan, and the rights of Taiwan citizens in other parts of China.

Article Ten specifies that the law comes into force on the day of its proclamation.

China continues to declare a policy of peaceful resolution under the "one country, two systems" framework that offers Taiwan limited autonomy in exchange for Taiwan's integration with the mainland. China sees the potential use of force as an integral part of its policy of dissuading Taiwan from pursuing independence and encouraging it to unite ultimately with the mainland. Beijing has not renounced the use of force against Taiwan. The threat of force against Taiwan is now codified in the "anti-secession law," enacted by the National People's Congress in March 2005.

The circumstances in which Beijing has historically claimed it would use force against the island include: a formal declaration of independence by Taipei, foreign intervention in Taiwan's internal affairs, indefinite delays in the resumption of cross-Strait dialogue, Taiwan's acquisition of nuclear weapons, and internal unrest on Taiwan. These circumstances are not fixed and have evolved over the last decade in response to Taiwan actions and changes in China's own military capabilities. They are, moreover, deliberately general, allowing Beijing to determine the timing and form of its response.

Beijing's Courses of Action against Taiwan

Although the costs of the use of force against Taiwan would be high, Beijing leaders might use force if they believed they had no other way to prevent Taiwan independence or, as implied in its "anti-secession law," to guarantee reunification over the long term. The Chinese Communist Party came to power on its credentials as a defender of Chinese sovereignty; its leaders appear to see progress – or perhaps, the absence of failure – on the Taiwan issue as affecting the legitimacy of their rule.

Beijing is developing military capabilities that will enable it to pursue several courses of action against Taiwan, allowing Chinese leaders more flexibility to apply pressure against the island and minimize the risks of a military confrontation with the United States. The PLA is simultaneously developing the capability to deter and/or slow a potential U.S., or U.S.-led, response to defend Taiwan.

Persuasion and Coercion. China's current approach to preventing Taiwan independence combines diplomatic, economic, legal, psychological, and military instruments to convince Taipei that the price of declaring independence is too high. This strategy combines the credible threat to use military force with the economic and cultural tools that China has at its disposal. China uses its growing economic links with Taiwan to influence political behavior on the island. Beijing seeks to attract more Taiwan investment in China, while emphasizing that peace in the Strait will bring prosperity. Beijing is increasing its pressure on Taiwan businessmen operating in China to refrain from supporting "pro-independence" parties or individuals on Taiwan. Beijing emphasizes historic, ethnic, and cultural links between Taiwan and the mainland, and unofficial diplomacy with "Taiwan compatriots" to generate domestic propaganda in Taiwan in favor of reunification.

Beijing has also intensified its competition with Taiwan in the developing world for diplomatic recognition. This effort has focused on eroding Taiwan's diplomatic support

among the 26 remaining countries that recognize Taipei. Simultaneously, using diplomatic and commercial levers, China has increased pressure on other states to limit their relationships with and to restrain Taiwan.

Portraying a military threat to Taiwan backstops the overall campaign to isolate Taiwan diplomatically and pressure Taiwan leaders. Exercises, deployments, and press operations all contribute to Beijing's policy of pressure.

Limited Force Options. Beijing could use limited strikes, employing information operations, special operations forces on Taiwan, and SRBM or air strikes at key military or political sites, to try to break the will of Taiwan's leadership and population. Although Beijing might view these as a complement to non-military coercion and as less than a full use of force, others may view such actions differently. Such a Chinese miscalculation could lead to a full-fledged conflict.

Nuclear Weapon/High-Altitude EMP Option.

Some PLA theorists are aware of the electromagnetic effects of using a high-altitude nuclear burst to generate high-altitude electromagnetic pulse (HEMP), and might consider using HEMP as an unconventional attack, believing the United States and other nations would not interpret it as a use of force and as crossing the nuclear threshold. This capability would most likely be used as part of a larger campaign to intimidate, if not decapitate, the Taiwan leadership. HEMP causes a substantial change in the ionization of the upper atmosphere, including the ionosphere and magnetosphere. These effects likely would result in the degradation of important war fighting capabilities, such as key communication links, radar transmissions, and the full spectrum of electro-optic sensors. Additional effects could include severe disruptions to civil electric/power and transportation. These effects cannot easily be localized to Taiwan and would likely affect the mainland, Japan, the Philippines, and commercial shipping and air routes in the region.

Such a campaign could include computer network attacks against Taiwan's political, military, and economic infrastructure to undermine the Taiwan population's confidence in its leadership. Simultaneously, PLA special operations forces infiltrated into Taiwan could conduct acts of economic, political, and military sabotage.

The PLA could also use limited, coordinated SRBM, special operations forces, and air strikes against air fields, radars, and communications facilities on Taiwan. Beijing could use the shock of rapid, accurate, and coordinated strikes and their effects on Taiwan's key C4ISR nodes to try to push the Taiwan leadership towards accommodation. At the same time, an information operations campaign on multiple levels could be launched to gain legitimacy for Beijing's claims on Taiwan and to reinforce the theme that military operations were limited to key military infrastructure, not the Taiwan people.

Air and Missile Campaign. Surprise SRBM attacks and precision air strikes could support a campaign designed to degrade Taiwan defenses, decapitate its military and political leadership, and break its will to fight rapidly before the United States and other

nations could intervene. To attempt these effects, China could employ SRBMs to saturate Taiwan's air defense system, including air bases, radar sites, missiles, and communications facilities.

Third-Party Intervention

Beijing sees Washington and, increasingly, Tokyo as the principal hurdles to any attempt to use military force to coerce or capture Taiwan. Beijing might coerce or target other critical countries to deny or delay their willingness to provide support, basing, overflight rights, or transit authority to U.S. forces operating in the theater. Deterring, defeating, or delaying foreign intervention ahead of Taiwan's capitulation is integral to Beijing's strategy. To that end, Beijing will pursue political and diplomatic efforts to keep the United States and Japan from taking action to support Taiwan. The U.S. Intelligence Community also believes China will consider a sea-denial strategy to attempt to hold at risk U.S. naval forces, including aircraft carriers and logistic forces, approaching the Taiwan Strait.

Blockade. Beijing could threaten or deploy a naval blockade either as a "non-war" pressure tactic in the pre-hostility phase or as a transition to active conflict. On one end of the spectrum, Beijing could declare that ships en route to Taiwan ports must stop in mainland ports for inspections prior to transiting on to Taiwan. Alternatively, China could attempt the equivalent of a blockade of Taiwan ports by declaring exercise or missile closure areas in approaches and roadsteads to ports to divert merchant traffic. Chinese doctrine also includes activities such as an air blockade, missile attacks, and mining or otherwise obstructing harbors and approaches.

More traditional methods of blockade would increase the impact on Taiwan, but also would tax PLA Navy capabilities and raise the potential for direct military confrontation, particularly with U.S. naval assets. Although sea lanes closer to China (i.e., the South and East China Seas) could be interdicted, any attempt at a close-in blockade or operations on the east side of Taiwan would strain the PLA Navy, which lacks significant replenishment and open ocean surveillance capabilities. More restrictive blockades increase the likelihood of international intervention. Although any blockade would have an immediate economic impact, it would take time to realize decisive political results. It would also increase the opportunity for countervailing U.S. and international pressure and could lead to the protracted campaign Beijing seeks to avoid.

Amphibious Invasion. An invasion of Taiwan would be a complex and difficult operation relying upon timing and pre-conditions set by many subordinate campaigns. Publicly available Chinese writings on amphibious campaigns offer different strategies for an amphibious invasion of Taiwan. The most prominent of these is the Joint Island Landing Campaign. The objective of this campaign is to break through or circumvent the shore defense, establish and build a beachhead, and then launch an attack to split, seize and occupy the entire island or important targets on the island. To achieve the final objective of the Joint Island Landing Campaign, a series of sub-campaigns, such as

electronic warfare, naval, and air campaigns, must be executed, including the underlying logistics support.

Amphibious operations are logistics-intensive and rely for success upon the rapid build-up of supplies and sustainment ashore and an uninterrupted flow of support thereafter. This particular amphibious operation would tax the lift capacities of China's armed forces needed to provide sustainment for this campaign. Add to these strains the combat attrition of China's forces, and an amphibious invasion of Taiwan would be a significant political and military risk for China's civilian and military leaders.

The PLA's prospects in an invasion of Taiwan would hinge on: availability of amphibious and air lift, attrition rates, interoperability of PLA forces, the ability of China's logistic system to support the necessarily high tempo of operations, Taiwan's will to resist, and the speed and scale of third-party intervention.

Factors of Deterrence

China is deterred from taking military action against Taiwan on two levels. It does not yet possess the military capability to accomplish with confidence its political objectives on the island, particularly when confronted with outside intervention. Beijing is also deterred by the potential repercussions of any use of force against Taiwan. According to the Defense Intelligence Agency, China's leaders recognize that a war could severely retard economic development. Taiwan is China's single largest source of foreign direct investment. An extended campaign would wreck Taiwan's economic infrastructure, leading to high reconstruction costs. International sanctions against Beijing, either by individual states or by groups of states, could severely damage Beijing's economic development.

Conflict with Taiwan could also lead to instability on the mainland. Maintaining internal security in wartime appears to be an important consideration in PLA planning – reflecting leadership concerns about political stability. Failure would almost certainly result in severe repercussions for those in the leadership who had advocated such a course of action. A conflict also would severely hurt the image China has sought to project regionally and globally in recent years. If Beijing chose to use force against Taiwan prior to the 2008 Olympics, China would almost certainly face a boycott or loss of the games. Finally, Beijing must calculate the probability of U.S. intervention in any conflict in the Taiwan Strait. It views the United States as having advantages over China in many scenarios involving the use of military force. China's leaders also calculate a conflict over Taiwan involving the United States would give rise to a long-term hostile relationship between the two nations – a result that would not be in China's interests.

APPENDIX
CHINA AND TAIWAN
FORCES DATA

Figure 10

Taiwan Strait Military Balance, Ground Forces			
	China		Taiwan
	Total	Taiwan Strait Area	Total
Personnel (Active)	1.6 million	375,000	200,000
Group Armies	18	9	
Infantry Divisions/Brigades (including airborne)	20/20	9/11	0/25
Armor Divisions/Brigades	10/10	4/4	0/5
Mech Infantry Divisions/Brigades	5/5	3/1	0/3
Artillery Divisions/Brigades	5/15	3/5	0/0
Marine Divisions/Brigades	0/2	0/2	1/3
Tanks	6,500	2,500	1,900
Artillery Pieces	11,000	5,500	4,400

Note: The PLA active ground forces are organized into Group Armies. Infantry, armor, and artillery units are organized into a combination of divisions and brigades deployed throughout the PLA's seven Military Regions (MRs). A significant portion of these assets are deployed in the Taiwan Strait area, specifically the Nanjing, Guangzhou, and Jinan military regions. In a major Taiwan conflict, personnel, units, and equipment from other military regions would augment existing combat power in the Taiwan Strait area. In 2004, Taiwan began transforming motorized rifle and armored infantry brigades to mechanized infantry.

Figure 11

Taiwan Strait Military Balance, Air Forces			
	China		Taiwan
Aircraft	Total	Within range of Taiwan	Total
Fighters	1,500	425	420
Bombers	780	280	0
Transport	500	50	40

Note: The PLAAF and PLANAF have a total of around 2,600 combat aircraft: air defense and multi-role fighters, ground attack aircraft, fighter-bombers, and bombers. An additional 470 older fighters and bombers are assigned to PLA flight academies or R&D. The two air arms have over 90 surveillance and reconnaissance aircraft with photographic, surface search, and airborne early warning sensors. The PLAAF and PLANAF have 500 transports. The majority of PLAAF and PLANAF aircraft are based in the eastern part of the country. Currently, more than 700 aircraft could conduct combat operations against Taiwan without refueling. Taiwan has some 400 fighters of various types.

Figure 12

Taiwan Strait Military Balance, Naval Forces			
	China		Taiwan
	Total	East and South Sea Fleets	Total
Personnel	290,000	140,000	60,000
Destroyers	21	13	6
Frigates	43	34	21
Tank Landing Ships	20	20	12
Medium Landing Ships	23	15	4
Diesel Submarines	51	29	4
Nuclear Submarines	6	0	0
Coastal Patrol (Missile)	51	34	50

Note: The PLA Navy has a large fleet that includes 64 major surface combatants, approximately 55 attack submarines, more than 40 medium and heavy amphibious lift ships, and some 50 coastal missile patrol craft. Two-thirds of those assets are located in the East and South Sea Fleets. In the event of a major Taiwan conflict, both fleets would be expected to participate in direct action against the Taiwan Navy. The North Sea Fleet would be responsible primarily for protecting Beijing and the northern coasts, but could provide mission critical assets to support the other fleets.

Figure 13

China's Missile Forces		
China's Missile Inventory Total	**Launchers/ Missiles**	**Estimated Range**
CSS-4 ICBM	20/20	8,460+ km
CSS-3 ICBM	10-14/20-24	5,470+ km
CSS-2 IRBM	6-10/14-18	2,790+ km
CSS-5 MRBM Mod 1/2	34-38/19-23	1,770+ km
JL-1 SLBM	10-14/10-14	1,770+ km
CSS-6 SRBM	70-80/230-270	600 km
CSS-7 SRBM	100-120/420-460	300 km
DF-31 ICBM	DEVELOPMENTAL	7,250+ km
DF-31A ICBM	DEVELOPMENTAL	11,270+ km

Note: China's SRBM force has grown significantly in the past few years. China's Second Artillery now has at least five operational SRBM brigades; another brigade is deployed with the PLA ground forces. All of these units are deployed to locations near Taiwan.