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Report to Congress
Pursuant to the FY2000 National Defense Authorization Act

The FY2000 National Defense Authorization Act (Section 1202) directs the Secretary of Defense to 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."

This report, submitted in response to the FY2000 National Defense Authorization Act, addresses (1) China's grand strategy, security strategy, and military strategy; (2) developments in China's military doctrine and force structure, to include developments in advanced technologies which would enhance China's military capabilities; and, (3) the security situation in the Taiwan Strait.

ANNUAL REPORT ON THE MILITARY POWER OF THE PEOPLE'S REPUBLIC OF CHINA

I. GOALS OF CHINESE GRAND STRATEGY, SECURITY STRATEGY, AND MILITARY STRATEGY

A. Chinese Grand Strategy

China's primary national goal is to become a strong, modernized, unified, and wealthy nation. It views its national standing in relation to the position of other "great powers." Beijing clearly wants to be recognized as a full-fledged great power. China considers itself a developing power whose natural resources, manpower, nuclear-capable forces, seat on the UN Security Council, and growing economy give it most of the attributes of a great power. It wants to achieve "parity" in political, economic, and military strength with other great powers. If present trends continue, Beijing believes it will achieve the status of a "medium-sized" great power by 2050 at a minimum. China also wants to become the preeminent Asian power by generating enough "strength" so that no major action will be taken by any other international actor in Asia without first considering Chinese interests.

Chinese analysts calculate the standing of nations by measuring "comprehensive national strength." of these nations. A small circle of strategic advisers for deceased paramount leader Deng Xiaoping developed the method driving this calculus in the 1970s and 1980s. This method relies on a dynamic process of measuring quantitatively and qualitatively key components or "subsystems" of a country's multi-layered comprehensive national power system. Utilizing this method, Chinese analysts measure four subsystems of national power: (1) material or *hard* power (natural resources, economics, scientific and technology, and national defense); (2) spirit or *soft* power (politics, foreign affairs, culture, and education); (3) coordinated power (leadership

organization, command, management, and coordination of national development); and, (4) environmental power (international, natural, and domestic).

The PRC government has not enunciated a "grand strategy" to guide its activities and approach to international affairs, in the Western sense of the term. Indeed, Chinese leaders are largely preoccupied with domestic concerns, especially the need to maintain conditions of national unity and internal stability. We can infer from official statements by senior leaders, government planning documents, and government-affiliated writings that the nearest Chinese equivalent to a "grand strategy" would be its national development strategy, which aims to comprehensively develop national power so that Beijing can achieve its long-term national goals. Deng Xiaoping first enunciated this development strategy in the late 1970s as the "Four Modernizations." The post-Deng leadership, led by Chinese Communist Party (CCP) General Secretary Jiang Zemin, has reaffirmed this strategy.

Based on this intellectual foundation, China's grand strategy aims for comprehensively developing national power so that Beijing can achieve its long-term national goals. This grand strategy, which Beijing defines as "national development strategy," was first initiated by Deng Xiaoping in the late 1970s and has been reaffirmed by the post-Deng collective leadership, which is led by Chinese Communist Party (CCP) General Secretary Jiang Zemin. This development strategy is based on an assumption that economic power is the most important and most essential factor in comprehensive national power in an era when "peace and development" are the primary international trends and world war can be avoided. In this context, Beijing places top priority on efforts to promote rapid and sustained economic growth, to raise technological levels in sciences and industry, to explore and develop China's land- and sea-based national resources, and to secure China's access to global resources.

Although this development strategy assumes that economic power is the most important factor in comprehensive national power, Beijing's strategy also prioritizes addresses the development of military power as a secondary complement to policies of reform and opening up for ensuring that China's economic power will rise; for protecting important national interests; and, for supporting a policy of eventually playing the role of a great power and perhaps emerging as the preeminent power in Asia. Nonetheless, Chinese leaders since Deng have placed military modernization as the fourth in priority order of the Four Modernizations. In the aftermath of Operation ALLIED FORCE in Kosovo--to include the May 1999 bombing of China's embassy in Belgrade--some Chinese officials have considered seriously reordering the country's national priorities by upgrading the importance of defense development in China's national development strategy. However, the senior leadership elite reaffirmed its priority emphasis on economic growth, scientific and technological development, and resource exploration/development at the August 1999 leadership retreat at Beidaihe.

In addition to developing the material "hard" components of national power (natural resources, economics, science and technology, and national defense), some analysts believe China's national development strategy seeks to enhance the political, diplomatic and economic components "soft" component of national power, which it believes determines the effectiveness of a nation's material power. Beijing is seeking to enhance its "soft" international power by refining its national policies and decisionmaking capabilities; improving its foreign political,

diplomatic, economic, and military relationships; increasing its role in and contribution to multilateral activities, to include the United Nations, the World Trade Organization, the ASEAN Regional Forum (ARF) and the Asian Pacific Economic Council (APEC); raising the per capita income of its people to the global norm for advanced nations; and, improving the social quality of life for its people, including health and education on par with the leading nations of the world.

China's national development strategy also places special importance on strengthening the "unifying" and "coordinating" component of national power, based on a judgement that development of the material, political, diplomatic, and economic (hard) and spirit (soft) components of national power requires macro adjustment, control and coordination of these two components. Against this backdrop, the senior CCP Central Committee (CC) leadership regularly emphasizes the importance of "party building," which involves modifying and enhancing the party and government's control apparatus, as well as rejuvenation and development of successive generations of party cadre. The CCP also places particular emphasis on ensuring the absolute control of the PLA by the CCP's General Secretary and Politburo Standing Committee via the CCP CC's Central Military Commission (CMC), which is chaired by General Secretary Jiang Zemin. Management of various national programs that impact on hard and soft components of national power is exercised by several governmental organizations, especially the State Development Planning Commission, the State Economic and Trade Commission, and the National Defense Science, Technology, and Industry Commission. Interagency review and policy formulation is conducted by a number of secretive, so-called "leading groups" in the CCP CC, including the Foreign Affairs Leading Group, the Taiwan Affairs Leading Group, the Finance and Economics Leading Group, and the CMC. Senior leaders within the CCP CC's Politburo Standing Committee exercise decision-making authority.

In seeking to coordinate the development of the hard and softvarious components of national power, some Chinese analysts recognize that environmental "restricting conditions" can influence--negatively or positively--a nation's ability to develop these components. In particular, China believes that the international (world structure and different balances of power), natural (resources, geography, and ecology), and social (political, economic, and social systems and their stability) environment can influence directly the direction and pace of national development. Accordingly, China's development strategy emphasizes the need to encourage positive environmental influences and to minimize negative ones. Since 1985, Beijing has promoted the evolution of the global balance of power from a bipolar to a multipolar structure and has sought a peaceful, stable security environment along China's vast periphery and on the international scene generally. Over the last decade, China has improved its capability to respond to natural disasters--including floods, droughts, earthquakes, plagues, famines, and forest fires--to which China is particularly vulnerable because of geography and historic settlement patterns, including land reclamation. Beijing also is seeking to exploit more fully its natural resources and to develop the military force projection capabilities necessary to protect its access to potentially resource-rich areas of contested ocean territory in the North, East, and South China Seas. Moreover, China is implementing cooptive and coercive measures to maintain social stability in a domestic environment in which economic reforms measures have created or exacerbated political, labor, rural, criminal, and ethnic sources of civil unrest. Beijing has proven willing to move quickly to contain or quell any new sources of dissent, including the quasi-religious Falun Gong sect which has emerged as a national-level political issue over the last year.

In this context, several developments over the last decade--especially in the last year--have prompted some Chinese elites to question seriously China's longstanding benign security assessments that "peace and development" are the primary international trends, that world war can be avoided, and that balance of global power is shifting from a bipolar to a multipolar structure. Senior leaders are concerned primarily that the United States wants to maintain a dominant position in the Eurasian balance of power by containing the growth of Chinese power and preventing a resurgence of Russian power. Beijing assesses that Washington is trying to sustain a "unipolar" balance of power by strengthening its security alliance with Tokyo and by expanding NATO's reach beyond Western Europe. China thinks that Russia's internal troubles preclude it from playing a sustained role in offsetting US dominance in Eurasia. Moreover, Beijing suspects that new US-Japan Defense Guidelines Review measures authorize Japanese military action beyond Japan's previous defense posture and prompt Tokyo to improve its regional force projection capabilities. Beijing also calculates that US efforts to develop national and theater missile defenses will challenge the credibility of China's nuclear deterrence and eventually be extended to protect Taiwan, a move that China would consider a gross intervention in Chinese affairs and that would complicate China's efforts to establish an intimidating conventional theater missile capability opposite the island.

In the aftermath of Operation ALLIED FORCE's success in Kosovo, Beijing thinks it will have increasing difficulty managing potential U.S. meddling in internal Chinese affairs or military interventions in potential conflict scenarios involving China. A wide range of Chinese elites point to US intervention in Kosovo as setting a dangerous precedent for eventual US military operations against China in Taiwan Strait or South China Sea conflict scenarios. They also suspect Washington will intervene openly or covertly in Beijing's internal disputes with ethnic Tibetan or Muslim minorities in western China. Beijing also suspects that the precedent of US intervention in Kosovo reinforces any US inclination to intervene in a North Korean crisis scenario, a move that could challenge longstanding Chinese interests on the Korean peninsula. United States nonintervention in response to Moscow's military operations in Chechnya has moderated Chinese concerns about the precedent of ALLIED FORCE operations somewhat, based on the fact that, unlike Yugoslavia, China and Russia maintain nuclear-capable forces. Nonetheless, Beijing's fundamental concerns about US military intervention in potential conflict scenarios involving China remain real.

From China's perspective, these international trends are creating an international environment that will "restrict" Beijing's efforts to develop the hard and soft material, political, diplomatic, and economic components of national power. China believes that these trends indicate that it will be difficult for Beijing to develop a special relationship with Washington that would fundamentally moderate any US intent to "contain" China or that would encourage the United States to cooperate with China in offsetting Japan's growing power. Moreover, China's fundamental problem in responding to this negative security environment is that it has limited options in developing the international leverage necessary to offset US power in Eurasia. Since the 7 May 1999 bombing of China's embassy in Belgrade, China's leaders reportedly have been discussing ways to offset US power, to include accelerating military modernization, pursing strategic cooperation with Russia, and increasing China's proliferation activities abroad. However, none of these options is likely to improve fundamentally Beijing's position.

China does not appear to have concluded that any of these options would necessarily improve its security environment. Senior leaders resisted domestic pressures in the early- and mid-1990s to raise the importance of defense development in China's national development strategy because of concern that doing so would complicate efforts to ensure the growth and modernization of China's economy. Beijing believes that the economic growth is an important element in its strategy for maintaining the stability of its domestic social environment; moreover, foreign trade and investment links are central to China's development of the economic element of material (hard) component of national power. China's leaders also suspect that increasing the role of defense in national priorities would only reinforce Washington's efforts to contain China and justify Japan's intent to improve its force projection capability. Over the last decade, senior PLA strategists periodically have cautioned China's leaders to avoid being goaded by the United States into a lopsided arms race that could derail China's economic modernization.

While China's options are limited in seeking to offset US power, its security policies and positions increasingly have contained themes that indirectly or directly challenge US security policies and positions politically. Beijing frequently makes public and private statements that accuse the United States of engaging in "hegemonistic" international behavior. China also has enunciated a "new security concept" that calls for basing international security on multilateral dialogue and on pledges by states to foreswear the use of military threats, coercion, and military intervention in the internal affairs of other countries. In particular, this new security concept criticizes the bilateral and multilateral security alliances as being relics of the Cold War that undermine, rather than enhance, international security. Over the last three years, China has juxtaposed this position with US efforts to strengthen the US-Japan security alliance and to encourage the enlargement of NATO in various diplomatic or public forums in a thinly veiled effort to criticize US security policies in Eurasia. More recently, China has cooperated with Russia in successfully lobbying other United Nations members to support a UN resolution that criticizes US development of national missile defenses.

China's criticism of the direction of US security policies, in part, reflects genuine security concerns on the part of its leaders about perceived efforts by Washington to "contain" and "encircle" China and to encourage Japan to expand its defense scope in ways that Beijing believes will undermine regional security. However, this criticism also is driven by a calculus in China that US policies are creating an "international" environment that will "restrict" Beijing's efforts to develop the material (hard) and spirit (soft)comprehensively the various components of national power and complicate China's effort to become the preeminent power in Asia. China embarked on this effort to develop comprehensive national power during a period in which it believed it could focus on "peacetime construction" because it faced a benign security environment, a situation senior leaders increasingly are questioning in the post-Cold War era.

B. Chinese Security Strategy

China seeks to become the preeminent power among regional states in East Asia. Beijing is pursuing a regional security strategy aimed at preserving what it perceives as its sovereign interests in Taiwan, the South China Sea, and elsewhere on its periphery and protecting its economic interests, while at the same time promoting regional stability.

Beijing’s primary priority is to prevent further steps by Taiwan toward permanent separation, with a long-term objective of eventual reunification under China’s terms. China also seeks to counter what it perceives to be Japan’s growing military cooperation with the United States and to prevent what it views as a rebirth of Japanese militarism. At the same time, it will continue to value the economic benefits it derives from its access to Japanese technology, trade, and foreign investment. Maintaining stability on the Korean Peninsula also is one of Beijing’s regional security goals. China’s other important security goals in East Asia include preventing the development and deployment of a regional theater missile defense (TMD) system, particularly one involving Taiwan; defending its claims in the East and South China Seas; and, promoting its political and economic interests via such organizations as ASEAN, APEC, and the ARF.

Beijing’s actions in the region will be shaped in good measure by its relations with Washington and by its perceptions of US ties to South Korea, Japan and, Australia. China likely will continue to promote what has been referred to as a "strategic partnership" with Russia marked by cooperation over border issues, trade and investment, and military sales. China’s security interests in South Asia center on Pakistan and India--both nuclear-armed countries--and Beijing’s desire for peace and stability on the subcontinent. In Central Asia, Beijing remains concerned about the spread of Islamic fundamentalism into Xinjiang, while promoting efforts to develop energy resources, trade, and closer political ties with states along its border.

Outside the Asia-Pacific region, China seeks to enhance its status as a great power. While Beijing prefers bilateral diplomacy, it is attempting to expand its role and exert a greater voice in international fora. Beijing also is seeking out economic opportunities and promoting China’s international influence and stature. It continues to give high priority to thwarting Taiwan’s quest for international recognition. Beijing remains firmly committed to expanding its political and economic presence in such areas as Europe, the Middle East, Latin America, and Africa; however, China has no ambitions to establish a military presence in these regions.

With respect to Taiwan, in particular, Beijing asserts that Taiwan is part of and demands that Taiwan accept the principle of "one China" as a basis for negotiations aimed at eventual reunification. China insists that Taiwan should engage in "political talks" which would set the stage for the island's eventual reunification with the mainland under the "one country, two systems" formula. China also has condemned Taipei's activities aimed at broadening its international recognition. For its part, Taipei rejects Beijing's version of "one China" and demands that Beijing deal with Taiwan on an equal basis. Taipei has traditionally predicated unification on the condition that China attain levels of economic and democratic development similar to those enjoyed on Taiwan. In the interim, Taipei believes that the two sides should focus on technical or procedural issues, such as cultural and educational exchanges and the resolution of commercial disputes arising from Taiwan's extensive trade and investment interests on the mainland. Taipei also has worked actively to counter Beijing's efforts to isolate Taiwan internationally.

Both Beijing and Taipei have stated that they seek a peaceful resolution to the reunification issue. However, China’s leaders have refused to renounce China's right to use force against Taiwan. Beijing claims that, should Taipei declare independence or should a foreign power intervene in Taiwan’s internal affairs, it would consider using force against Taiwan. In the

interim, it will continue to prepare its military forces for such a contingency; in addition, it will attempt to influence political developments on the island and prevent Taiwan from moving toward *de jure* independence.

Despite its refusal to renounce its right to use military force against Taiwan, Beijing has consistently emphasized its desire to achieve national reunification peacefully through agreement with Taipei based on the "one country, two systems" formula. Some in China are aware that war with Taiwan could be economically and politically devastating. China's main national policy priority remains economic reform and development within an environment that is both peaceful and stable. To that end, Beijing has avoided activities that might threaten its economic growth and its access to foreign markets, investment, and technology. In initiating a military conflict with Taiwan, Beijing would run the risk of jeopardizing both its continued economic development and its political standing, especially among those regional states with which it has unresolved territorial disputes. China's resolve to employ military force, however, should not be discounted.

C. Chinese Military Strategy

Since the early 1990s, the focus of Chinese military strategy has been on preparing for potential military contingencies along China's southeastern flank, especially in the Taiwan Strait and South China Sea. China's military strategy emphasizes acquiring capabilities to counter improvements to Taiwan and other regional military forces, as well as preparing for capabilities the United States might bring to bear in any conflict.

Beijing's military strategy places a premium on fielding forces capable of rapidly deploying to fight and win a future regional war under high-technology conditions along China's periphery. The Persian Gulf War and Operation Allied Force graphically underscored for Beijing the need to improve the PLA's ability to fight against an adversary that possesses advanced information technologies and long-range, precision-guided weapons. China's perceptions of an emerging military-technological revolution have increased the urgency of acquiring the capability to fight a high-technology war.

A fundamental objective of China's military modernization program is to create a force sufficient to defend against any regional opponent, maintain the credibility of territorial claims, protect national interests, maintain internal security, deter any moves by Taiwan toward *de jure* independence, and deter aggression.

Even though ground force modernization has a low priority, force reduction efforts and selective new equipment fieldings focus on building a more mobile, combat ready core within the larger ground force. Currently, Beijing is downsizing its armed forces. The manpower reduction will contribute to a restructuring of the PLA into a military force consisting of three components: a small number of high-technology forces for flexible use in regional contingencies; a larger number of forces equipped with low-to-medium technology weapons for internal security; and, a modest nuclear force to maintain a viable deterrent against other nuclear powers.

China’s military leaders already have begun to develop the tactics these forces will employ. Concurrently, military schools and academies have assumed a more important role in professional development, with the aim of creating a better-educated and technologically skilled force, both in the officer and enlisted ranks. To support and sustain these forces during times of war, China also is trying to establish a more effective national mobilization system.

If Beijing perceived that war was inevitable, China's would attempt to contain and limit the conflict, but fight with sufficient force and tactics to achieve a military solution before outside powers could intervene militarily, and before vital trade and foreign investment were disrupted.

If a third party were to intervene militarily in a regional conflict involving China, the PLA would employ all means necessary in the hope of inflicting high casualties and weakening the intervening party’s resolve.

II. DEVELOPMENTS IN CHINESE DOCTRINE AND FORCE STRUCTURE

A. Developments in Chinese Military Doctrine

Traditionally, China’s defense strategy and force planning priorities have been determined by the need to maintain a large armed forces capable of responding to a wide range of internal and external missions. This continues to be reflected in China’s reliance on a force comprised of three main elements: 2.4 million PLA; a 1.3 million member People’s Armed Police (PAP); and a reserve-militia component of approximately 1.5 million personnel. The last decade has seen major efforts to resize and restructure China’s military forces in an effort to respond to changing threat perceptions.

Over a decade ago, the PLA began shifting its strategic focus from the protracted, large-scale land warfare that characterized Mao Zedong’s "People’s War" to fighting small-scale, regional conflicts along China’s periphery. China's "active defense" doctrine focuses on conducting what is officially called "people's war under modern conditions" but is better described as "local wars under high-tech conditions." This doctrine addresses rapid response to a range of contingencies along China’s land and sea borders, particularly within a strategic envelope which encompasses the East and South China Seas. China expects to encounter a more technologically advanced foe, such as the United States or Japan, if conflicts concerning its interests within this strategic envelope arise. Moreover, a cross-Strait conflict between China and Taiwan involving the United States has emerged as the dominant scenario guiding PLA force planning, military training, and war preparation.

China’s military planners are working to incorporate the concepts of modern warfare attributed to the "revolution in military affairs" and have placed a priority on developing the technologies and tactics necessary to conduct rapid tempo, high-technology warfare in Asia. China’s military strategies still bear the indelible mark of Mao's teachings, particularly as they apply to concentration of firepower by a technologically inferior force at select times and places on the battlefield to overcome a superior foe. The key change is the application of these doctrinal concepts in scenarios other than the classic "People's War". The concepts of limited high-tech

warfare, protection of China's coastal economic centers, and provision of credible intimidation in support of foreign policy are central to current Chinese strategic thinking.

The Persian Gulf War impressed PLA strategists with the need to prepare for "local wars under high-tech conditions." The NATO operation in Kosovo during 1999 served to reinforce and even increase the PLA's sense of urgency in pursuing the notion of "active defense" and pre-emptive strikes. Many officials in the PLA view the Kosovo conflict as the first example of a purely "no contact" war, in which control of aerospace and information systems were the deciding factors. They view future wars as being increasingly wars of "no contact" in which ground engagements will be shorter and shorter--or non-existent--and airpower will become the primary means of achieving tactical, operational and strategic goals. Recent articles in Chinese military journals argue that Yugoslav and Iraqi forces were defeated due to excessive passivity, and the PLA should be prepared to take the operational initiative and give top priority to attacking key targets in the enemy's operational systems.

Chinese strategists believe that if a war against a technologically superior foe breaks out, the enemy likely will deploy forces rapidly and then launch a massive air campaign. While the enemy is assembling its forces, there exists a window of opportunity for pre-emptive attack. This approach--"gaining the initiative by striking first"--is viewed as an effective method to offset or negate the advantages possessed by a more advanced military foe. Conducting preemptive strikes against the enemy's most critical targets--often referred to as "winning victory with one strike"--constitutes the most direct means available to Beijing to convince an enemy to desist without having to defeat his military forces, or to make political decisions in line with Chinese objectives. This tactic requires concentrating China's own chief strengths to "attack the core of the enemy's defense" and achieve piecemeal victories across the operational spectrum against a superior force. To achieve this objective would require a smaller, more mobile, and more technologically advanced military force than China currently has in place. Much of China's research and development, as well as acquisition and training programs, are centered on gaining the capabilities to accomplish such a force concentration.

The technological level of China's defense industrial complex is too far behind that of the West to produce weaponry that could challenge a technologically advanced foe such as the United States or Japan for an indefinite period of time. However, the predominant view within the PLA, as advocated by the late Deng Xiaoping, is that "selective pockets of excellence" are sufficient. Rather than shifting priority resources from civil infrastructure and economic reform programs to an across-the-board PLA modernization, Beijing intends to focus on programs that will give China the most effective means for exploiting critical vulnerabilities in adversarial defenses. This approach could give Beijing the "credible intimidation" needed to accomplish political and military goals without having to rely on overwhelming force-on-force superiority, a concept known as "victory through inferiority over superiority."

China's strategists are seeking to identify innovative tactics for those systems and technologies that the PLA has used successfully or can be reasonably expected to use in the next two decades. Beijing has placed emphasis on the development and acquisition of standoff weapons such as ASCMs, long-range LACMs, and SRBMs. China also is working to ameliorate weaknesses in

C4I training and placing increased emphasis on "electromagnetic warfare" to degrade or destroy enemy operational systems.

China's military planners recognize that high-technology systems are extremely complex, and over dependence on information systems is a potential weakness. By launching swift strikes with elite units and focusing on the enemy's potential vulnerabilities, they believe China can deal "symmetrical" blows at the enemy with "asymmetrical" methods. "Winning the battle piecemeal" means destroying selective reconnaissance, electronic and support systems in order to disrupt and reduce the effectiveness of the enemy's coordinated air operations. Combining information warfare--such as computer hacking--with irregular special and guerilla operations, would allow China to mount destructive attacks within the enemy's own operations systems, while avoiding a major head-on confrontation.

These asymmetric tactics and systems designed to engage a more modern potential adversary also could be used to lay the foundation for the comprehensive defeat of a lesser regional foe. When combined with overwhelming numbers of conventional low-tech systems, these assets also could give Beijing decisive advantages over potential regional opponents. China's strategy would be to use sufficient force to bring the adversary to the negotiating table under Beijing's terms and to undertake operations with enough alacrity to preclude third-party intervention.

B. Force Structure Modernization

Modernization priorities within the PLA are focused on the missile, air, and naval arms, but ground rapid-reaction forces also are included. PLA strategy calls for building elite forces, which will be able to respond quickly to a regional hot spot and dominate land, air, sea, space, and electromagnetic spheres of the battlespace.

China's military modernization will depend, to a large degree, on the availability of defense resources, defense industry performance, access to foreign technologies and weapons, and ultimately on the PLA's ability to integrate these systems into the military. If the economy fails to perform at levels close to Beijing's objectives, the military could face budget cuts that might slow the pace of modernization. China's defense industries have gained access to a wide array of advanced Russian and Western technologies but few can produce significant numbers of high-quality weapons. Should Beijing's defense industry reforms fail, the PLA could become increasingly dependent on imported foreign arms.

China will continue attempts to seek self-sufficiency in defense technology and production capabilities. Purchases of weapons systems will be made to satisfy critical near-term needs and to gain access to technologies. Nevertheless, the PLA will remain heavily dependent on foreign sources for key modern weapons and hardware, platforms, and technologies, as well as for systems engineering and integration. Even if the PLA were to acquire the modern weaponry it seeks, integrating those systems and training commanders and troops to employ them will remain a difficult task and will inhibit the PLA's maturation into a world-class military force.

C. Advanced Technologies Which Would Enhance Military Capabilities

1. Information and Communication Developments

a. Automated Command and Control and Information System Technologies

China has an extensive network of hardened, underground shelters and command and control facilities for both its military and civilian leadership. Fear of a possible war with the former Soviet Union in the 1960s and 1970s prompted Beijing to expend considerable resources constructing national level command posts, civil defense facilities and associated communications. These facilities are intended to ensure survival of China's leadership and provide a refuge from which it can maintain control over the country's military forces. Both civil and military communications networks support these facilities. The military communications network probably is separate from the civil telecommunications network, although it is possible that the two could be linked, a capability the PLA would be expected to exploit in time of crisis. China's military national level command and control communications are carried over multiple transmission systems in order to create a military communications system which is survivable, secure, flexible, mobile and less vulnerable to exploitation, destruction or electronic attack. China's communications networks are capable of supporting PLA military operations within China's borders; while they could be degraded, they could not be denied completely.

C4I modernization and automation has been a top Chinese priority since at least 1979. This effort has produced a command automation data network capable of rapidly passing operational orders down the chain of command and moving information to national and theater level decision makers. However, China's C4I infrastructure, including the command automation data network portions, is not capable of controlling or directing military forces in a sophisticated, western style joint operating environment. The command automation data network is capable of supporting PLA peacetime operations within China's borders. The command automation data network also can support limited preplanned conventional attack options along China's periphery. China still lags far behind western standards for controlling complex joint operations and lacks the robust C4I architecture required to meet the demands of the modern battlefield.

In October 1998, the Beijing Military Region (MR) reportedly used a "military information superhighway" for the first time at a joint defense warfare drill. This "military information superhighway" was described as an information network subsystem of the "campaign training (command) automation system" developed by the Beijing MR. The system processed and transmitted graphics, characters, and audio data, modernizing the traditional Chinese methods of drill and command. At the MR's operations center, commands from the MR commander and political commissar and military situation maps were relayed to and from the subordinate Group Armies' (GA) operational facilities hundreds of kilometers away.

The PLA's *Liberation Army Daily* reported that Lanzhou MR military leaders made use of video teleconferencing during a fall 1997 command post exercise. The teleconferencing linked participants stationed at distant points throughout the MR. The newspaper also reported that China conducted its first operational level logistics support exercise using a computer network in late 1997. The exercise allegedly involved 150 computers and linked 22 separate divisions for the exercise. The eight-day exercise was described as taking place on an unprecedented scale, connecting units thousands of kilometers apart.

Microwave communications equipment most likely is present at installations belonging to all branches of the PLA. Chinese open sources report that the 2nd Artillery has a new digital microwave communications system to support its missile launches. The 2nd Artillery signal unit reportedly started developing the system around 1995 and it passed acceptance tests a few years later. This new system reportedly provides the 2nd Artillery with all weather and encrypted communication ability.

Cellular telephone service does not yet appear to be a significant element of PLA military communications, although China has shown interest in establishing dedicated military cellular systems for PLA use. However, with the explosive growth of cellular communications in the civilian sector, cellular communications could become a significant element of PLA communications in the future. To date, PLA involvement has been concerned primarily with commercial exploitation of cellular communications.

China's military communications network continues to be upgraded; however, the bulk of China's military communications reportedly is processed on communications lines run by the Ministry of Information Industry. Both networks are composed largely of commercial off-the-shelf technology. This technology either is not restricted for sale to China or recently was decontrolled, although Beijing probably has been successful in obtaining some restricted technology to modernize its telecommunications network. Europe, Japan and Israel compete to sell telecommunications technology, as well as related hardware and software, to China.

b. Electronic Warfare Development

The thrust of China's electronic warfare (EW) efforts continues to focus on technology development and design capabilities improvement, accomplished mainly through cooperation with Western companies, through reverse engineering efforts, and through the procurement of foreign systems. The inventory of Chinese EW equipment includes a combination of 1950s-1980s technologies, with only a few select military units receiving the most modern components. China is procuring state-of-the-art technology to improve its intercept, direction finding, and jamming capabilities. In addition to providing extended imagery reconnaissance and surveillance and electronic intelligence (ELINT) collection, Beijing's unmanned aerial vehicle programs probably will yield platforms for improved radio and radar jammers. Additionally, existing earth stations can be modified to interfere with satellite communications. The PLA also is developing an electronic countermeasures (ECM) doctrine and has performed structured training in an ECM environment.

c. Information Operations/Information Warfare

China increasingly is viewing Information Operations/Information Warfare (IO/IW) as a strategic weapon to use outside of traditional operational boundaries. China's IO/IW is in the early stages of research. It currently focuses on understanding IW as a military threat, developing effective countermeasures, and studying offensive employment of IW against foreign economic, logistics, and C4I systems. Driven by the perception that China's information systems are vulnerable, the highest priority has been assigned to defensive IW programs and indigenous information technology development. Some technologies could provide enhanced defensive or

offensive capabilities against foreign military and civilian information infrastructure systems. Computer anti-virus solutions, network security, and advanced data communications technologies are a few examples.

Over the last few years, the Communication Command Academy in Wuhan has emerged as one of the major PLA centers in IW research. In December 1998, under the auspices of "Project 95"-All Military Critical Development Projects," the Academy established the PLA's first IW simulation experiment center. In the same year, the General Staff Department's Communication Department endorsed two publications on IW for use as the PLA IW textbooks. A task force of 20 PLA IW theorists and instructors from the Academy wrote the books: *Command and Control in Information Warfare and Technology in Information Warfare.* They set forth the definition of IW, its areas of study, and the application of information technology in combat. The Academy offers 31 command and control related cross-disciplinary courses with emphasis on IW at the core of undergraduate and graduate training. The cross-disciplinary course "Command and Control of Information Warfare" indicates the PLA's theoretical research on IW is fairly mature; however, the PLA has not yet developed a coordinated and integrated IW doctrine to match its maturing theory.

In the area of computer network attack (CNA), China appears interested in researching methods to insert computer viruses into foreign networks as part of its overall IO strategy. Beijing reportedly has adequate hardware and software tools and possesses a strong and growing understanding of the technologies involved. However, China's strategic IO use of advanced information technologies in the short- to mid-term likely will lack depth and sophistication; however, as it develops more expertise in defending its own networks against enemy attack, it is likely to step up attempts to penetrate foreign information systems.

Open source articles claim that the PLA has incorporated IO/IW-related scenarios and CNA activities into operational exercises. Efforts reportedly have focused on increasing the PLA's proficiency in defensive measures, especially against computer viruses. In Shenyang and Lanzhou MRs, open source reports describe scenarios where a GA HQ successfully defended its command and control network from a virus attack. In a separate tactical level exercise, another scenario called for hackers to intrude into the same GA command and control network for exploitation and destruction.

China has the capability to penetrate poorly protected US computer systems and could potentially use CNA to attack specific US civilian and military infrastructures. This anti-access strategy is centered on targeting operational centers of gravity, including C4I centers, airbases, and aircraft carrier battle groups located around the periphery of China.

2. Space Development

China has the capability to launch military photoreconnaissance satellites; however, the technology employed is outdated by Western standards. Beijing does not possess a real-time photoreconnaissance capability, but eventually may deploy advanced imagery reconnaissance and earth resource systems with military applications. The China-Brazil Earth Resources Satellite (CBERS) was launched in October 1999 and the experience gleaned from operating this

satellite will support Beijing's efforts to develop improved military reconnaissance satellites. CBERS also will provide some militarily useful data. China also may attempt to deploy a near-real-time electro-optical imaging satellite within the next decade, as well as a high-resolution film-based photoreconnaissance satellite. In the interim, Beijing can be expected to exploit commercial SPOT and LANDSAT imagery. Use of other commercial higher resolution satellite imagery also can be anticipated, as it becomes available.

China already has launched three low-orbit meteorological satellites and a geosynchronous weather satellite. Although Beijing has received some degree of foreign technological assistance in the areas of reconnaissance, surveillance and targeting capabilities, many of its system development efforts appear to have a substantial indigenous component. In the future, however, Beijing could be expected to acquire and incorporate greater amounts of foreign technology and hardware to expedite program development.

China is interested in 400-500 kilogram (kg) satellites and plans an oceanographic research satellite Haiyang 1 (Ocean-1) in this class that is scheduled for launch in 2001. Other missions for satellites of this class that Beijing eventually may field include earth observation, communications, and navigation. China also is developing minisatellites (weighing less than 100 kgs) for missions, which include remote sensing and networks of electro-optical and radar satellites. A joint venture between China's Tsinghua University and Great Britain’s University of Surrey is building the "Tsinghua" system, a constellation of 7 minisatellites with 50-meter (m) resolution remote sensing payloads. The first satellite is scheduled for launch in 2000. Later satellites in the series probably will have improved resolution. In addition, Beijing participates in the Asia-Pacific Small Multi-Mission Satellite Project as part of the Asia-Pacific Multilateral Cooperation in Space Technology and Applications Program, which reportedly includes Iran, Pakistan, Thailand, Mongolia, South Korea, and Bangladesh.

Although China is improving its overall space launch program, there is no evidence that it currently is developing the capability to conduct "launch-on-demand space launch operations," i.e., the capability to use satellites and space launch vehicles in storage to launch within 24 hours of a decision to do so.

Exploitation of space--to include manned space operations--remains a high priority. Although nearly all major aspects of China's manned space program began within the last five years or so, Beijing is still aiming for a possible first manned launch by 2001. While one of the strongest motivations for this program appears to be political prestige, China's manned space efforts could contribute to improved military space systems in the 2010-2020 time frame. In addition to scientific and technical experiments, Chinese astronauts, for instance, could investigate the utility of manned reconnaissance from space.

China is said to be acquiring a variety of foreign technologies, which could be used to develop an anti-satellite (ASAT) capability. Beijing already may have acquired technical assistance which could be applied to the development of laser radars used to track and image satellites and may be seeking an advanced radar system with the capability to track satellites in low earth orbit. It also may be developing jammers, which could be used against Global Positioning System (GPS) receivers. In addition, China already may possess the capability to damage, under specific

conditions, optical sensors on satellites that are very vulnerable to damage by lasers. Beijing also may have acquired high-energy laser equipment and technical assistance, which probably could be used in the development of ground-based ASAT weapons. Given China's current level of interest in laser technology, Beijing probably could develop a weapon that could destroy satellites in the future. Although specific Chinese programs for laser ASAT have not been identified, press articles indicate an interest in developing this capability and Beijing may be working on appropriate technologies.

China has extensive space-related cooperation programs with many countries. Although most of these projects are described as scientific or civilian in nature, militarily significant technology transfer nonetheless likely occurs in many of them.

According to press reporting, Moscow and Beijing currently have 11 joint space projects underway. These include cooperative manned space activities. The Chinese also have shown strong interest in Western--Canadian and German--radar satellite capabilities, to include a possible purchase of synthetic aperture radar (SAR) satellite systems. China recently signed a contract to launch an Italian-built communications satellite with 28 ku-band transponders in 2001; two earlier contracts appear to involve research into "observation and data detection satellites" that will be built jointly by both countries.

China’s Xian Satellite Control Site and the French national space agency announced a program of cooperation for satellite command and control in February 1999. A December 1998 press report stated that China has signed intergovernmental agreements and memoranda on aerospace cooperation with the United States, Canada, Germany, Italy, France, Britain, Russia, Pakistan, India, and Brazil. In addition, Beijing has promoted technical and economic cooperation and exchanges of different types, including jointly developing satellites, with corporations, enterprises, and research institutes in more than 70 countries and areas.

Since 1998, China and the United States have signed three intergovernmental agreements on launching services. Several US satellite-manufacturing companies have signed agreements on commercial satellite launching services, involving a total of some 30 satellites. The satellite "Sinosat"--jointly developed by China, France, and Germany--was launched successfully in 1999. Moreover, in the form of a joint venture, China and Germany have made improvements to the Dongfanghong 3 communications satellite and have worked on a new generation of similar satellites.

According to December 1998 South Korean press reports, South Korea and China are expected to share data and information collected by their respective remote sensing satellites. November 1998 Chinese media reported a jointly funded contract with Holland for a cooperative project to develop and use a new satellite to monitor desertification and crop yields in China. Chinese scientists likewise have been reported studying minisatellite technologies in Great Britain. Chinese and British entities apparently have established a joint venture to build and launch China's first privately built satellite.

China’s aerospace industry also is seeking to integrate GPS and Russian Global Navigation Satellite System (GLONASS) guidance technology into fighters and helicopters. The China

Aerospace Corporation displayed a GPS receiver at an exhibition in Beijing in September 1996 and provided brochures advertising both a 12-channel GPS receiver and a 12-channel GPS/GLONASS receiver. One brochure showed a space launch vehicle, suggesting GPS use in missile applications. Information obtained at a more recent air show indicates that all of China's new fighters will incorporate GPS navigation systems. China's military-backed industries also have entered into joint ventures with foreign firms to produce GPS receivers, which may find their way to military weapons. To complement GPS/GLONASS navigation aids, China has been attempting to acquire commercial satellite imagery from various foreign countries. This widely available satellite imagery could be used in conjunction with GPS/GLONASS to develop digital terrain maps for targeting, missile guidance, and planning.

3. Other Technology Developments

a. Anti-radiation missile development

China reportedly is developing two anti-radiation surface-to-air missiles (SAMs): the FT-2000, which first surfaced in sales brochures at the September 1998 Farnborough Air Show, and the FT-2000A. The former SAM probably utilizes the yet-to-be-deployed HQ-9--an SA-10/ Patriot-class SAM--while the latter apparently uses the comparatively older HQ-2/CSA-1 SAM first seen in the late 1950s.

The missile associated with the FT-2000 is probably similar to the HQ-9 in size but may be somewhat slower. Its maximum range reportedly is about 100 km, with a maximum altitude of approximately 20 km. A complete FT-2000 battalion probably would consist of a command platoon and three batteries. Sales brochure acquired at Farnborough dubbed the FT-2000 an "AWACS killer." The FT-2000 could be deployed as a stand-alone air defense system or deployed as part of another system. Although Beijing has stated publicly that the FT-2000 will be available for foreign export around the year 2001, it is more likely that it will not be available until the second half of the decade. If a foreign customer cannot be found, development could take longer or not occur at all.

According to a China sales brochure, the FT-2000A SAM will use a highly-modified HQ-2/ CSA-1 missile that has been equipped with a passive radio frequency homing seeker operating in the 2- to 6-GHz band. The FT-2000A also will contain a new millimeter-wave band fuze, a new guidance-and-control section, and a new 60 kg fragmentation warhead. The missile has a cutoff valve for thrust adjustment while in flight, probably to extend its range. The missile seeker is loaded with the target aircraft’s radio frequency (RF) signature before launch and relies on this information for tracking and intercept. The missile has an estimated maximum range of 60 km, with a maximum altitude of 18,000 meters.

A stand-alone FT-2000A battery consists of a central control station and twelve launchers, each holding one missile. The central control station has one master passive sensor and three auxiliary passive sensors. The auxiliary passive sensors coordinate with the master passive sensor through triangulation to determine angle and range of targets emitting in the 2- to 6-GHz band. This configuration is totally passive, relying on the RF emissions of the target.

A composite fire unit consists of FT-2000A launchers and missiles, integrated with standard SAM components like those of the HQ-2, SA-2, or SA-3. Although a special fire control unit and launcher are required, this configuration allows anti-jamming missiles to replace several of the command guided missiles normally associated with these SAMs.

b. Missile Defense Developments

China's ability to defend against cruise missiles is considered extremely limited, while its antitheater ballistic missile capability (ATBM) and its antiballistic missile (ABM) capability is considered non-existent. However, Beijing reportedly is developing state-of-the-art SAMs, which over the next 10-20 years will improve its ability to defend against cruise missiles and TBMs; however, no significant advances with respect to developing ABM capabilities are anticipated during this period. Most of Beijing's developmental SAMs appear to be derivatives of existing systems.

In recent years, the Chinese have embarked on an aggressive program to procure state-of-the-art Russian SAM systems and related technologies. To date, limited numbers of the SA-10b, the SA-10c, and SA-15 SAMs have been sold to China. These Russian air defense systems are being used operationally to fill gaps in China's air defense structure. However, these systems provide only a rudimentary, limited defense against aircraft and cruise missiles. In an effort to acquire greater air defense depth, Beijing can be expected to attempt to glean technology from its purchased items to build its own air defense weapons. In addition, China also can be expected to try to develop a viable ATBM and ABM capability by either producing its own weapons or acquiring them from foreign sources.

Several SAM systems currently in the PLA inventory are assessed to have a limited capability against cruise missiles. These include the CSA-5 and the Hong Qi-7 (HQ-7), a copy of the French CROTALE system. Development of a follow-on variant of the CSA-5 with an improved capability to counter cruise missiles is possible. The HQ-**7** series of SAMs also could be replaced sometime in the future by a follow-on system with an improved capability to engage cruise missiles. The HQ-9 SAM--currently under development--is believed modeled after the US PATRIOT. It reportedly is intended to provide long-range defense against fixed-wing aircraft, as well as against TBMs. According to Chinese open press reports, the HQ-16 SAM is a Russian-Chinese co-development project, possibly involving SA-11 technology. In addition, Beijing reportedly is developing a short-range SAM system based on the SA-15.

Currently, the PLAN's surface units are ill equipped for air defense, particularly ASCMs. Only a handful of the PLAN's approximately 60 destroyers and frigates are equipped with SAMs; the remainder are outfitted with anti-aircraft guns of various calibers. The few existing SAM systems have extremely limited ranges and are useful only for point defense. No long-range shipborne SAM systems currently exist in the inventory. China reportedly is seeking to address its naval air defense shortcomings through the development of a naval variant of the HQ-9 SAM. The PLAN already has deployed--albeit in limited numbers--a naval variant of the HQ-7. The SA-N-7 SAM system which will be acquired from Russia as part of the SOVREMENNYY destroyer deal is a modern, medium-range naval SAM system; however, it will have only a limited capability against cruise missiles.

c. Subsurface Warfare

China's subsurface warfare capabilities are modest compared with Western standards, but they are considered effective against most other East Asian navies. The PLAN's equipment is less sophisticated, older, and noisier. Its personnel are undereducated, the senior enlisted concept is new, and training and exercises lack realism. China currently has access to a wide variety of technology sources and actively engages in technology transfer to further its antisubmarine warfare (ASW) programs. As China combines domestic research and development with submarine-related technology acquired through direct purchase and transfer from foreign countries, particularly Russia, the PLAN's ASW capabilities are expected to improve over time.

The acquisition of four KILO attack submarines from Russia reportedly has provided the PLAN with access to technology in quieting and sonar development, as well as weapons systems. China can be expected to try to incorporate some aspects of these technologies into its domestic submarine construction programs, although it will take the navy many years before it can use effectively the advanced technology now available. China's most modern indigenously built diesel attack submarine is the SONG. It also reportedly incorporates technologies acquired from Russia, as well as from Western countries. The PLAN currently has five HAN nuclear attack submarines (SSNs) in its inventory and one nuclear-powered ballistic missile submarine (SSBN)--the XIA. Beijing's next-generation nuclear submarine programs are expected to reflect a significant amount of Russian influence. China is believed to have good access to a wide variety of foreign sonars, to include passive ranging sonars, flank array sonars, variable-depth sonars, as well as helicopters equipped with dipping sonars.

The PLAN's mine stockpiles include vintage Russian moored-contact and bottom influence mines, as well as an assortment of domestically built mines. China currently produces the EM11 bottom-influence mine; the EM31 moored mine; the EM32 moored influence mine; the EM52 rocket-propelled rising mine; and, the EM-53 ship-laid bottom influence mine which is remotely controlled by a shore station. China is believed to have available acoustically activated remote control technology for its EM53. This technology probably could be used with other Chinese ship-laid mines including the EM52. Application of this technology could allow entire mines to be laid in advance of hostilities in a dormant position and activated or deactivated when required. China reportedly has completed development of a mobile mine and may be producing improved variants of Russian bottom mines and moored-influence mines. Over the next decade, China likely will attempt to acquire advanced propelled-warhead mines, as well as submarine-launched mobile bottom mines.

d. Antiship Cruise Missiles

There currently are four types of antiship cruise missiles in the PLAN. These ASCMs include the CSS-N-1/SCRUBBRUSH missile carried aboard the JIANGHU I-class frigate (FF); the CSS-N-2/ SAFFLOWER onboard the LUDA-class destroyer (DD); the CSS-N-4/C801/ SARDINE carried by the JIANGHU III-class FF; and, the CH/SS-N-6 /C802/SACCADE carried on board various destroyers, frigates, and guided missile patrol boats (PPGs). The C802 is an extended range version of the solid fuel C801 missile. The SS-N-22/SUNBURN supersonic ASCM system

likely will be deployed on the two SOVREMENNYY-class guided missile destroyers (DDGs) purchased from Russia.

e. Low Observable Technologies

China reportedly embarked on an extensive national effort to understand and develop low observable (LO) technology in the 1980s. Indigenous efforts likley have grown in maturity and understanding so as to allow analysis of foreign capabilities and attempt to duplicate past research. Chinese scientists are said to have an excellent theoretical understanding of LO technology, but apparently lack practical experience that comes with decades of applied research. China appears to have begun multiple programs to apply basic signature reduction technologies to its fighter aircraft programs and reportedly is developing new fighter aircraft which will incorporate LO technology.

f. Laser Weapons

China is believed to have a highly developed electro-optic industry, as well as the ability to field blinding laser weapons, including tactical laser weapons. Beijing offered the ZM-87 neodymium laser blinder for sale at defense exhibitions in Manila and Abu Dhabi in 1995 and may be developing an advanced version of this system with improved range and antisensor capabilities. Although the ZM-87 is intended for use primarily against ground targets, it could be used against aircraft. China also may be developing improved blinding weapons incorporating automatic targeting and countermeasure resistance; it also reportedly is investigating the feasibility of ship-borne laser weapons for air defense. Future laser systems most likely will emphasize the use of advanced optical techniques for improved target acquisition and pointing and tracking. Lasers with increased power and efficiency also are said to be under consideration.

III. THE SECURITY SITUATION IN THE TAIWAN STRAIT

A. An overview of China's strategic and conventional forces, including those forces available for operations against Taiwan.

1. Missile Forces

China developed nuclear weapons and a limited force to deliver them in order to prevent nuclear blackmail and to obtain greater international status and prestige. Its relatively small nuclear forces are intended for retaliation rather than a first strike. Beijing's objective is nuclear deterrence: to convince potential enemies that enough of China's strategic weapons would survive an attack to inflict unacceptable damage on the aggressor in a retaliatory strike.

The only Chinese missile system capable of targeting the continental United States is the CSS-4 ICBM. China reportedly has built 18 CSS-4 silos. China also is designing a new generation of solid-fuel, road-mobile ICBMs that will enhance greatly ICBM survivability. The CSS-3 ICBM has the technical range to reach portions of Alaska but is intended primarily for use against targets in Russia and Asia. Two launch configurations exist for the CSS-3: a rollout-to-launch site and an elevate-to-launch silo. The CSS-2 is China's primary regional missile system. A road-

transportable, liquid-fueled IRBM, it can be launched from either permanent launch pads or from portable launch stands. The CSS-5 is China's first land-based solid-fuel missile. It is a road-mobile missile carried in and launched from a launch canister mounted on a towed transporter-erector-launcher (TEL).

As demonstrated in military exercises in the Taiwan Strait in 1995 and 1996, China views its growing conventionally-armed SRBM force as a potent military and political factor in the Taiwan equation, even though some questions remain as to whether or not these exercises and missile firings advanced Beijing's objectives. China also reportedly has begun to develop two LACM designs which will increase furtherthe PLA's capability to strike key regional targets accurately with conventional warheads.

Over the next several years, China's SRBM force is expected to continue to grow. The PLA currently has one regimental-sized CSS-6 SRBM unit deployed in southeastern China. The CSS-6 is a solid propellent, road mobile missile which can deliver a 500-kg conventional payload to a maximum range of 600 km. This CSS-6 unit may soon be augmented by a CSS-7 SRBM unit and one additional CSS-6 unit. The CSS-7 also is a solid propellant, road-mobile missile with an estimated range of approximately 300 km. An improved, longer range variant may be under development. Within the next several years, both the CSS-6 and the CSS-7 are expected to incorporate satellite-assisted navigation technology to improve their accuracy. In an armed conflict with Taiwan, China's SRBMs likely would target air defense installations, airfields, naval bases, C4I nodes, and logistics facilities.

China also is developing LACMs. These missiles appear to have a relatively high development priority. Chinese research and development of LACMs is being aided by an aggressive effort to acquire foreign cruise missile technology and subsystems, particularly from Russia. The first LACM to enter production probably would be air-launched and could be operational by mid-decade.

2. Air Forces

The PLA Air Force (PLAAF) and the PLA Naval Air Force (PLANAF) combined number over 400,000 personnel, 4,300 tactical fighters, 1,000 bomber and close air support aircraft, and 650 transport aircraft. The vast majority of the fighter fleet is composed of technologically obsolete airframes: about 2,900 are 1950s vintage F-5s and F-6s, with a further 1,000 composed of 1960-70s vintage F-7s. A sizeable--although unknown--percentage of these aircraft are not combat capable. China apparently has no confirmed capability to utilize precision-guided munitions (PGMs). Only the PLANAF's B-6D bombers and its FB-7 fighter-bombers have a standoff strike capability. China's ground-based air defense forces reportedly can provide no better than point defense; there is no comprehensive, integrated national air defense network. The PLAAF has only about a dozen heavy lift aircraft and its aerial refueling and airborne early warning programs remain behind schedule.

Nonetheless, China's air forces are modernizing, albeit slowly. As a result of substantial foreign technological assistance, advanced indigenous fighter programs reportedly have progressed to the prototype testing stages.

The size of China's air forces should become much smaller over the next two decades: the PLAAF/PLANAF's fixed-wing fleet could shrink from some 5,300 combat aircraft in 2000 to slightly more than 2,200 aircraft by 2020. Readiness rates, the distances over which China can project air power, and the variety of missions which China's air forces can perform also can be expected to improve; however, the quality of China's air defense and C4I technology will continue to lag behind that of advanced Western nations and Russia. Still, development and deployment of a comprehensive integrated air defense system (IADS) by around 2020 is possible.

The incorporation of both aerial refueling and airborne early warning (AEW)/airborne command and control, once achieved later this decade, could constitute a significant force multiplier for China's air forces, although only for relatively small numbers of aircraft at any one time. Aerial refueling would allow China's more modern fighters to conduct operations beyond China's periphery. Real-time situational awareness of this same airspace would be provided by the AEW/airborne command and control platforms which China could begin to phase in over the next half-decade.

At least through 2005, numerous limitations in the PLAAF and PLANAF would make achieving air superiority over the Taiwan Strait exceedingly difficult. During this period, Taipei is expected to maintain a technological edge with respect to the quality of its aircraft vis-à-vis China. Three-quarters of Taiwan's 400+ fighters are fourth-generation aircraft. The only fourth generation aircraft currently in China's inventory is the Su-27/ FLANKER. By 2005, PLA fourth-generation fighter aircraft are expected to number about 150 and constitute only about 4% of the fighter force. In addition, while small strides in improving the competency of China's pilots have been noted in the past five years, professionally they still lag behind their counterparts in Taiwan.

After 2005, however, if projected trends continue, the balance of air power across the Taiwan Strait could begin to shift in China's favor, assuming no significant, concurrent improvement in Taiwan's air capabilities. By this time, both China's aerial refueling and AEW programs will either have reached or be nearing IOC and the number of aerial refueling-capable fighters could number more than 150. China's active-radar air-to-air missile (AAM) likely will be fielded in the post-2005 timeframe as well, giving its growing inventory of fourth-generation fighters a weapon approaching the AMRAAM's capability. Uncertainties in funding and production during this period, however, would affect the timing in all these cases.

3. Naval Forces

The People's Liberation Army Navy (PLAN) currently numbers approximately 260,000 personnel, some 60 destroyers and frigates, about 60 diesel and six nuclear submarines, and nearly 50 amphibious landing ships. Several hundred auxiliary and smaller patrol vessels, as well as a naval air arm of over 500, mostly obsolescent, fixed-wing aircraft and some 30 helicopters complement this force. Over the last decade, the PLAN has attempted to streamline and modernize its forces by eliminating large numbers of older ships and replacing them with fewer, more modern units. The number of submarines has declined by about one-half. The size of the major surface combatant fleet has been relatively stable, with older ships slowly being replaced by newer Chinese-built destroyers and frigates. Nearly the PLAN's entire inventory of U.S.-

built, World War II-vintage landing ships have been replaced by similar numbers of domestically produced vessels. Nevertheless, the PLAN continues to lag behind other regional navies, including that of Taiwan, in most technological areas, especially air defense, C4I, and surveillance.

China maintains an overwhelming advantage in submarines over Taiwan and this quantitative advantage will continue for the foreseeable future. Moreover, while the number of boats in service in China is expected to decrease, their overall qualitative capabilities also is expected to increase. China apparently is producing more modern submarines and using submarine-related foreign technology. Although the force is oriented principally toward interdicting surface ships using torpedoes and mines, China is expected to begin arming some its submarines with submerged-launch cruise missiles. The capability of Chinese submarines to conduct ASW operations is expected to improve, particularly in light of the acquisition of Russian-built KILO-class submarines and the greater emphasis reportedly being placed on ASW training. As a result, China's submarine fleet could constitute a substantial force capable of controlling sea lanes and mining approaches around Taiwan, as well as a growing threat to submarines in the East and South China Seas.

China's fleet of major surface combatants includes about 40 frigates and 20 destroyers. All carry ASCMs, ranging from the antiquated, first-generation CSS-N-1/SCRUBBRUSH to the more advanced C801/SARDINE and C802/SACCADE. Two Russian-built SOVREMENNYY destroyers--both of which are scheduled for delivery in 2000--likely will be equipped with the SS-N-22/ SUNBURN ASCM. While most of the newer surface combatants are being equipped with short-range SAMs, the overwhelming majority of vessels mount no SAM system at all. Despite these limitations, the PLAN's surface fleet is expected to strive to enhance both its readiness and endurance for extended operations. In addition, it can be expected to conduct more realistic training exercises and deploy more advanced anti-ship, air defense missiles and electronic counter measures.

The PLAN's amphibious fleet provides sealift sufficient to transport approximately one infantry division. The PLAN also has hundreds of smaller landing craft, barges, and troop transports, all of which could be used together with fishing boats, trawlers, and civilian merchant ships to augment the naval amphibious fleet. Shortcomings in long-range lift, logistics, and air support, however, will continue to hinder China's ability to project amphibious forces. The PLAN is not expected to improve significantly its limited ability to conduct amphibious operations any time soon. In addition, seasonal weather conditions may at certain times of the year limit the ability for smaller vessels to conduct amphibious operations.

The PLAN's Marine force is considered one of the PLA's rapid reaction forces. Historically, its primary mission has been to conduct amphibious operations; its secondary mission has been to support ground force units. It currently is capable of performing only regional, battalion-size amphibious operations.

4. Ground Forces

China's ground forces are comprised of some 40 maneuver divisions and approximately 40 maneuver brigades. Approximately 14 of the divisions are designated "rapid reaction" units: combined arms units capable of deploying by road or rail within China without significant train-up or reserve augmentation. China is continuing the process of reducing the size of its army. The 500,000-man reduction in force underway for the last several years is continuing. It is intended to streamline the force and facilitate funding to equip its "core" infantry, airborne, mechanized and aviation units with more advanced weapons. The army is supported by a large reserve-militia force numbering more than 1.5 million personnel and by the one million men PAP.

Particularly since the 1991 Persian Gulf conflict, the PLA has devoted considerable resources to the development of Special Operations Forces (SOFs). These units apparently are an integral element of ground force modernization and likely have been assigned specific missions or tasks in a variety of Taiwan contingency operations. These missions or tasks could include conducting reconnaissance and surveillance; locating or destroying C4I assets, transport nodes, and logistics depots; capturing or destroying airfields and ports; and destroying air defense facilities.

Only a portion of the PLA's overall strength could be brought to bear against Taiwan. Forces likely to be involved in an operation directed against the island would include theater ballistic missile units in Nanjing MR; air and ground force units subordinate to the Nanjing and Guangzhou MRs—particularly Nanjing MR's 1st and 31st GAs--and naval assets subordinate to the East Sea Fleet. Additional air, naval and ground force assets from other MRs/fleets could augment forces deployed opposite Taiwan. Airborne forces, despite limited organic lift, also could play an important role in a Taiwan scenario by seizing airfields for landing follow-on forces and supporting amphibious landings.

B. Capacity for preemptive strikes, including available warning time of PLA military strike operations against Taiwan.

The PLA is acquiring standoff weapons, which could be used in a preemptive strike against Taiwan. These weapons include ASCMs, long-rang LACMs, and SRBMs. New generations of cruise and ballistic missiles will have longer ranges and greater accuracy.

The PLA's 2nd Artillery has incorporated a new conventional mission with the addition of CSS-6 and CSS-7 SRBMs to its inventory. Within the next several years, the size of China's SRBM force is expected to grow substantially. The primary focus of this new conventional mission is regarded as a key element in the PLA's effort to upgrade its capability for high technology warfare in the region and, in particular, with regards to Taiwan. China apparently is working to improve the accuracy and survivability of its SRBMs. If these enhancements are successful, the SRBMs will become formidable, accurate, and elusive deep-strike weapons.

The warning time for missile launches most likely will decrease as China expands its missile force opposite Taiwan, especially is Beijing were to build additional missile facilities closer to the Taiwan Strait, from where the missiles could be launched with little or no warning. In addition, the Chinese are proficient at using camouflage, terrain masking, underground facilities, decoys and other forms of denial and deception to conceal military activity and inhibit timely warning.

C. Estimate of PLA ability to integrate and synchronize theater missile and air strikes, IO, and special operations.

Should China decide to attack Taiwan, Beijing's goal would be to erode Taipei's will to fight with sufficient alacrity to avoid escalation of the conflict and potential third party intervention in the hope of forcing a political resolution in Beijing's favor. Synchronized application of SRBM, LACM, air-launched ASCM, maritime, and SOF assets likely would be a necessary requirement for success. However, while Beijing understands the theoretical aspects of integrating various weapons systems and strike assets, the PLA's principal obstacles lie in doctrinal and tactical deficiencies. China has no real-time reconnaissance and surveillance capability and its ability to effectively command and control its military forces--particularly in a joint service environment--is practically non-existent. The PLAAF and the PLANAF rarely exercise together. While the PLA and PLAAF reportedly exercise together as do the PLAN and PLANAF, rarely do three or more services exercise jointly. The PLA apparently conducts interservice exercises at the tactical level, but the services are not integrated fully into a cohesive combat force. So-called joint exercises appear to be highly scripted, with little or no free play. Disparate elements train simultaneously and in proximity, but are not controlled at the operational level by a joint commander and staff with interoperable C4I systems and a joint operational plan. There is a paucity of information on how the PLA would integrate IW into a joint operational environment. Apparently only the 2nd Artillery has shown some progress in developing a training regimen which incorporates interaction with other service elements. China is not expected to develop comprehensive joint power projection capabilities for at least the next two decades; as a result, its ability to control a multidimensional battlespace likely will remain limited.

D. Estimate of Taiwan's ability to sustain air, sea, and ground operations in the face of integrated PLA attack operations.

In the short term (2000-2005), the PLA will have only a limited capability to conduct integrated operations against Taiwan. The PLA conducts interservice exercises at the tactical level, but the services are not fully integrated into a cohesive combat force. This weakness would contribute to Taiwan's ability to sustain air, sea and ground operations in the face of a PLA attack in the short term.

Maintaining air superiority over the Taiwan Strait would be an essential part of any Chinese effort to mount a military operation against Taiwan. China currently has an overwhelming quantitative advantage over Taiwan in military aircraft and is expected to retain that advantage beyond 2005. On the other hand, Taiwan's more modern aircraft will provide it with a qualitative advantage that should be retained at least through that period. PLA EW operations against air defense radars, disruption of command and control networks, and/or large scale conventional SRBM and LACM strikes against airfields and SAM sites could reduce the effectiveness of Taiwan's air defenses. The overall capability of the TAF would depend on the implementation of sound pilot training, sufficient logistic and maintenance support, and the ability of the TAF to integrate satisfactorily several disparate airframes into a cohesive, operational fighting force.

A PLA amphibious invasion of Taiwan probably would be preceded by a naval blockade, air assaults and missile attacks on Taiwan. Airborne, airmobile, and special operations forces likely

would conduct simultaneous attacks to the rear of Taiwan's coastal defenses to seize a port, preferably in close proximity to an airfield. Seizing a beachhead likely would constitute a supporting attack. An airborne envelopment would facilitate amphibious operations by cutting off Taiwan's coastal defenders from supply lines and forcing them to fight in two directions. China likely would seek to suppress Taiwan's air defenses and establish air superiority over an invasion corridor in the Taiwan Strait. The PLA's success in establishing and maintaining a foothold on the island would rest on a variety of intangibles to include personnel and equipment attrition rates on both sides of the Strait; the interoperability of PLA forces; and, the ability of China's logistic system to support adequately optempo operations.

China's numerical superiority in submarines constitutes a threat to the Taiwan Navy, but Taiwan is acquiring advanced ASW technology that likely will improve its ability to counter PLA submarines operating off the coast of Taiwan. Nonetheless, the Taiwan Navy probably would have an extremely difficult time opposing a naval blockade with its existing resources, which include many obsolescent World War II-era ships. Barring third-party intervention, the China's quantitative advantage over Taiwan's Navy in surface and sub-surface assets would probably prove overwhelming over time.

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In the mid-term (2005-2010), the PLA is exepected to field a force that is more capable of conducting integrated operations against Taiwan, but probably would still have significant shortcomings in this area. Regardless of the timing, a successful invasion would exact tremendous losses and require a massive commitment of military and civilian assets. Additionally, China would have to be willing to accept the almost certain political, economic, diplomatic, and military costs that such a course of action would produce.

If current ship-building trends continue into the mid-term, the PLA navy will not possess significantly greater amphibious lift capacity for troop transport. This trend will continue to act as a constraint on a full-scale amphibious invasion., but would not preclude the use of other assets, such as ballistic missiles and submarines, in an attempt to reunify the island by force. China is aware of its weaknesses in lift capacity and is giving greater attention to the role of civilian assets in an amphibious invasion. Recent PLA military exercises that probably incorporated a Taiwan scenario have featured fishing boats and merchant ships in a strong supporting role. The creation of such a reserve, if realized, would improve China's ability to conduct an amphibious invasion of Taiwan. Beijing reportedly also is stepping up efforts to refit merchant ships to make up for the shortage in naval landing vessels. Weather constraints would

affect the timing of any invasion attempt. In addition, mud flats along the western shore of Taiwan would restrict the number of available landing beaches..

In the long term (2010-2020), China's qualitative edge over Taiwan's military forces could continue to increase. By 2010 and after, China could gain greater operational experience with many new systems. These systems include advanced air superiority fighters, air- and sea-launched cruise missiles, and naval combatants. The PLA also could improve its ability to conduct combined arms operations, integrating air, land, naval and missile forces to a higher degree than currently observed. Other capabilities, such as aerial refueling, AWACS and AEW operations are expected be more fully developed during this time frame.

The change in the dynamic equilibrium of forces over the long term will depend largely on whether Taiwan is able to meet or exceed developments on the mainland with programs of its own. Its success in deterring potential Chinese aggression will be dependent on its continued acquisition of modern arms, technology and equipment, and its ability to integrate and operate these systems effectively, and its ability to deal with a number ofother systemic problems--primarily the recruitment and retention of technically-qualified personnel and the maintenance of an effective logistics system--lest Taipei once again risk losing its qualitative edge.

E. An assessment of any challenges during the preceding year to the deterrent forces of Taiwan.

Several developments in Chinese military operations or capabilies in 1999 present challenges to Taiwan's defense. The year was marked by increased PLA air activity in the Taiwan Strait, precipitated in part by Lee Teng-hui's assertion in July that relations with the mainland were on a "state-to-state" basis. China reportedly deployed additional fighters to an airfield directly opposite Taiwan and increased its air sortie rate over the Taiwan Strait. For the first time, China demonstrated a willingness to employ Su-27 aircraft in the Strait as a show of force.

During the summer, PLA ground, naval, air and strategic rocket forces reportedly conducted exercises that, although scheduled before the onset of tensions, probably were tailored to intimidateTaipei. They apparently included small-scale amphibious exercises on the mainland coast of China north and south of Taiwan. These exercises probably increased readiness in units that would be involved in a Taiwan contingency and sent a signal to Taiwan that Lee's actions remain unacceptable.

In 1999, the large-scale PLA ground-force reorganization and restructuring continued to equip units in China with more capable weapons, including units deployed opposite Taiwan.