

# Executive Summary Backgrounder

No. 2036  
May 17, 2007



Published by The Heritage Foundation

## China's Quest for a Superpower Military

*John J. Tkacik, Jr.*

The People's Republic of China announced on March 4, 2007, that it would increase its military budget by 17.8 percent in 2007 to a total of \$45 billion—by far the largest acknowledged amount that China has ever spent on its military. However, CIA calculations suggest that China really devotes 4.3 percent of its gross domestic product (GDP) to its military, including off-budget sectors such as foreign arms purchases, subsidies to military industries, China's space program, the 660,000-man People's Armed Police, provincial militias, and reserve forces. Adjusting China's 2006 GDP of \$2.5 trillion for purchasing power parity yields a GDP of about \$10 trillion, which pegs military spending at \$430 billion.

In other words, the size of Beijing's military budget puts China in the top stratum of global military powers with the United States. Despite the Beijing leadership's espousal of China's "peaceful rise," this unprecedented peacetime expansion of China's military capabilities can no longer be viewed as though some benign force animates it.

**Military Buildup.** The pace and scope of China's military expansion are startling.

**Nuclear Forces.** In the past decade, China's nuclear forces have brought the reliability, survivability, response times, and accuracy of their ballistic missiles to state-of-the-art standards. China has about 40 intercontinental ballistic missiles (ICBMs) targeted at the United States. China's missile submarines are already loaded with solid-fuel Julang-1s,

and each new Type-094 nuclear submarine after 2010 will deploy with 12 ballistic missiles that have a range of 8,000 km.

**Anti-Satellite Weapons.** On January 12, 2007, the Chinese successfully intercepted and destroyed a target satellite. China's anti-satellite (ASAT) technology is now state of the art. Unsurprisingly, Beijing rebuffs verification issues while purporting to seek an international pact to "prevent an arms race in outer space." More than any other Chinese military program, the ASAT program reflects not just a capability, but also, given the lack of feasible alternative targets, an intention to strike U.S. space assets in time of war.

**Naval Forces.** China has made naval modernization its top arms priority. Since 1995, China has built a modern fleet of 29 advanced diesel-electric submarines, and 10 more are being built. China's surface fleet is also growing rapidly and is developing a capability to project force throughout the Asia-Pacific. The People's Liberation Army (PLA) Navy is refitting a Ukrainian aircraft carrier and launched 19 new heavy transport ships and 10 amphibious landing ships between 2003 and 2005.

This paper, in its entirety, can be found at:  
[www.heritage.org/research/AsiaandthePacific/bg2036.cfm](http://www.heritage.org/research/AsiaandthePacific/bg2036.cfm)

Produced by the Asian Studies Center

Published by The Heritage Foundation  
214 Massachusetts Avenue, NE  
Washington, DC 20002-4999  
(202) 546-4400 • [heritage.org](http://heritage.org)

Nothing written here is to be construed as necessarily reflecting the views of The Heritage Foundation or as an attempt to aid or hinder the passage of any bill before Congress.

*Air Forces.* The PLA Air Force now boasts about 400 new Russian-designed fighter aircraft and 60 new Jian-10 fighters with expected production of at least another 190 Jian-10s—more than a match for Taiwan’s fighters in the Taiwan Strait.

*Ground Forces.* China’s army is still the world’s largest with 1.64 million men and is modernizing apace. The PLA’s Type 98 main battle tank arguably outclasses the weapons on the U.S. M-1A2 Abrams tank, and Chinese arms makers now display an impressive array of new armored vehicles, mobile heavy artillery, all-terrain vehicles, helicopters, and new small arms.

*Cyberwarfare Forces.* New PLA doctrine sees computer network operations as a force multiplier in any confrontation with the United States or other potential adversaries, such as Taiwan, Japan, South Korea, and even the United Kingdom. PLA cyberwar units apparently are the only PLA troops that regularly attack enemy targets, making at least four major attacks on U.S. government computer systems in 2006 alone.

**Geostrategic Implications.** China’s military expansion is extravagantly in excess of anything required by a responsible stakeholder in the existing international system and is even beyond that needed to “liberate” Taiwan. China shares land borders with 14 nations, none of which is a threat to it, yet China still has contentious territorial claims against India and Japan and in the South China Sea. China’s gathering geopolitical punch portends a 21st century that may well become the Chinese century in Asia—a new century of China’s support for illiberal forces that will buttress the legitimacy of Beijing’s regime at home.

**What the Administration and Congress Should Do.** Asia does not believe that Washington—preoccupied with Iraq—is concerned about China’s spreading influence, much less that it has a strategic vision for the Pacific Rim. Managing the emerging security challenge requires a new U.S. partnership with democratic Asia and a new attitude in Washington. The U.S. should:

- **List China as the top U.S. foreign policy challenge.** The entire bureaucracy must prepare to implement a coherent China policy to address defense, global, and regional issues, using counterintelligence and export control strategies as needed.
- **Commit resources to preserving the U.S. position as the world’s preeminent military power.** America cannot bluff its way out of this challenge. America’s most urgent needs are increasing its submarine fleet, enhancing its anti-submarine warfare capabilities, and ensuring the survivability of its space platforms (e.g., satellites).
- **Reinforce eroding alliances,** eschew inclinations to take China’s rhetorical side against Japan or against Taiwan, reinvigorate ties in Southeast Asia, build on new ties with India, and reengage the Atlantic Community in dialogue on shared global interests and values of human dignity and freedom.

**Conclusion.** The Asian perception that the United States is a declining Pacific power may or may not prove prescient, but China is clearly emerging as the preeminent power in the Asia–Pacific. Faced with this reality, an engaged America can strengthen the current robust trans-Pacific alignment, knitting together the democracies of the Americas and the Western Pacific Rim, or a disengaged America can allow a Sino-centric continental axis to crystallize as the Association of Southeast Asian Nations, Taiwan, Korea, and eventually Japan, Australia, and South and Central Asia bandwagon with China.

The choices made in Washington on how to manage the emerging Chinese superpower will determine not only the direction of Asian democracy, but also the prospects for global political and economic freedoms in the 21st century.

—John J. Tkacik, Jr., is Senior Research Fellow in China, Taiwan, and Mongolia Policy in the Asian Studies Center at The Heritage Foundation.

# Background

No. 2036  
May 17, 2007



Published by The Heritage Foundation

## China's Quest for a Superpower Military

*John J. Tkacik, Jr.*

The National People's Congress of the People's Republic of China (PRC) announced on March 4, 2007, that it would increase the country's military budget by 17.8 percent in 2007 to a total of \$45 billion—by far the largest acknowledged amount that China has ever spent on its military.<sup>1</sup> The Chinese government went out of its way to reassure the world that this spending hike was normal and need not worry anyone. “China is committed to taking a path of peaceful development and it pursues a defensive military posture,” a spokesman said.<sup>2</sup>

As the Chinese aphorism goes, “listen to what they say, but observe what they do,” and what Beijing is saying is quite different from what it is doing.

The resources that Beijing devotes to its armed forces put China in the top stratum of global military powers. With China's 2006 gross domestic product (GDP) in excess of \$2.5 trillion (about \$10 trillion in purchasing power parity terms) and its military spending estimated by the Central Intelligence Agency at 4.3 percent of GDP,<sup>3</sup> China's military spending is more accurately pegged at about \$430 billion than at \$45 billion.

While China's declared military budget primarily includes personnel costs (and a 17.8 percent military pay hike is reasonable), the declared budget is only a small part of overall Chinese military spending. The exact methodology that U.S. intelligence agencies use to estimate the military's share of China's GDP is classified, but it reportedly accounts foreign arms pur-

### Talking Points

- China is spending 4.3 percent of its GDP (\$430 billion per year) on its military, placing it in the top stratum of global military powers. The People's Liberation Army now funds vast modern weapons systems in outer space and cyberspace, as well as in the traditional battle spaces of land, sea, and air.
- China is building a military capable of projecting power and influence throughout Asia and the Western Pacific, not just against Taiwan.
- Current trends indicate that the 21st century will be a Chinese century in which Beijing becomes the economic, trade, political security, and human rights rule-maker in Asia as the United States recedes from the region.
- Washington needs to make fundamental changes in its Asia policy and engage allies and friendly countries in the region to meet the China challenge.

This paper, in its entirety, can be found at:  
[www.heritage.org/research/AsiaandthePacific/bg2036.cfm](http://www.heritage.org/research/AsiaandthePacific/bg2036.cfm)

Produced by the Asian Studies Center

Published by The Heritage Foundation  
214 Massachusetts Avenue, NE  
Washington, DC 20002-4999  
(202) 546-4400 • [heritage.org](http://heritage.org)

Nothing written here is to be construed as necessarily reflecting the views of The Heritage Foundation or as an attempt to aid or hinder the passage of any bill before Congress.

chases, subsidies to military industries, China's space program (which is under the absolute command of the Central Military Commission), the 660,000-man People's Armed Police, provincial militias, and reserve forces—all of which are excluded from official military budget figures.<sup>4</sup>

Defense spending in some sectors that are not counted in the defense budget appears to be increasing at a much faster rate than the official military budget. For example, *China's National Defense in 2006* (China's 2006 Defense White Paper) noted that:

In 2005, the output value, added value and gross revenue of the entire spectrum of defense-related science, technology and industry increased by 24.3 percent, 20.7 percent and 21.6 percent, respectively, over the previous year.<sup>5</sup>

The Chinese military budget does not include the bulk of the defense-related science, technology, and industry sectors or overseas military procurement or provincial spending on militias and reserves.

Despite the Chinese Communist Party leadership's espousal of China's "peaceful rise," the facts tell a different story. The unprecedented peacetime expansion of China's military capabilities can no longer be viewed as though some benign force animates it. China's military expansion is already sufficiently transparent that one can discern Beijing's intention to challenge the United States in the Western Pacific and establish itself as the predominant military power in the region—in the name of anti-hegemony and to promote a "multipolar international system."

### China's Rise as a Military Power

Chinese leaders are not seized by self-doubt about the direction of their regime. The declared strategy of the Chinese leadership has been to turn its economic growth into military power by means of the "four modernizations" (agricultural, industrial, science and technology, and military) and the "prosperous nation, strong military" (*fu guo, qiang bing*) model.

1. Edward Cody, "China Boosts Military Spending: Senior U.S. Official Presses Beijing to Clarify 'Plans and Intentions,'" *The Washington Post*, March 5, 2007, p. A12, at [www.washingtonpost.com/wp-dyn/content/article/2007/03/04/AR2007030400401.html](http://www.washingtonpost.com/wp-dyn/content/article/2007/03/04/AR2007030400401.html) (April 23, 2007). This was certainly the biggest increase in yuan terms. China has announced the following annual percentage increases: 1.5 percent in 1987; 2.6 percent in 1988; 12.6 percent in 1989; 15.4 percent in 1990; 12.0 percent in 1991; 12.0 percent in 1992; 12.5 percent in 1993; 20.3 percent in 1994 (the yuan was devalued from Y6.10 to the dollar down to Y8.28 to the dollar); 14.6 percent in 1995; 11.3 percent in 1996; 12.7 percent in 1997; 12.8 percent in 1998; 12.7 percent in 1999; 12.7 percent in 2000; 18 percent in 2001; 17.7 percent in 2002; 9.6 percent in 2003; 11.6 percent in 2004; 12.6 in 2005; 14.7 percent in 2006; and 17.8 percent in 2007. China also increased military spending by 20 percent in 1979 to pay for its February incursion into Vietnam. Data compiled by June Teufel Dreyer, Ph.D., University of Miami.
2. Jim Yardley and David Lague, "Beijing Accelerates Its Military Spending," *The New York Times*, March 5, 2007, p. A8, at [www.nytimes.com/2007/03/05/world/asia/05military.html](http://www.nytimes.com/2007/03/05/world/asia/05military.html) (April 23, 2007).
3. Central Intelligence Agency, *The World Factbook 2007* (Washington, D.C., 2007), s.v. "China," at [www.cia.gov/cia/publications/factbook/geos/ch.html](http://www.cia.gov/cia/publications/factbook/geos/ch.html) (April 23, 2007). The latest World Bank figures for China's GDP indicate a purchasing power parity (PPP) of \$7.634 trillion in 2004, while using a nominal exchange rate yields a GDP of \$1.938 trillion, producing a PPP ratio of 3.94. However, according to the Penn World Table, China's PPP ratio was 2.14 in 2004. World Bank, *World Development Indicators* (Washington, D.C.: International Bank for Reconstruction and Development and the World Bank, 2006), Table 1.1, at [http://devdata.worldbank.org/wdi2006/contents/Table1\\_1.htm](http://devdata.worldbank.org/wdi2006/contents/Table1_1.htm) (May 15, 2007), and University of Pennsylvania, Center for International Comparisons of Production, Income and Prices, Penn World Table, s.v. "China," at [http://pwt.econ.upenn.edu/php\\_site/pwt62/pwt62\\_form.php](http://pwt.econ.upenn.edu/php_site/pwt62/pwt62_form.php) (May 15, 2007).
4. Mark Magnier, "China Announces Military Budget Hike," *The Los Angeles Times*, March 5, 2007, p. A1, at [www.latimes.com/news/printition/asection/la-fg-china5mar05,1,5200670.story](http://www.latimes.com/news/printition/asection/la-fg-china5mar05,1,5200670.story) (April 23, 2007). Other studies indicate that provincial reserves and militias absorbed the bulk of the 200,000 troops, which the 2006 Defense White Paper says were demobilized between 2003 and 2005. In addition, the military seems to have generated large amounts of income from land rentals and sales in major cities. Dennis Blasko, "PLA Ground Force Modernization Underway in All Military Regions, Preparing for a Variety of Missions," presented at the 2006 PLA Conference at Carlisle Barracks, Pa., October 6–8, 2006, pp. 11–12.
5. Chinese State Council, Information Office, *China's National Defense in 2006*, December 2006, in *China Daily*, December 29, 2006, at [www.chinadaily.com.cn/china/2006-12/29/content\\_771191.htm](http://www.chinadaily.com.cn/china/2006-12/29/content_771191.htm) (May 3, 2007). See especially chap. VIII.



Ironically, after the 1991 collapse of the Soviet Union—China’s only existential threat—China increased military spending, while the United States and virtually all of its allies immediately set about reaping a “peace dividend,” with U.S. defense expenditures dropping over 10 percent from \$298 billion in fiscal year (FY) 1992 to \$268 billion in FY 1997.<sup>6</sup> During the same period, Chinese defense spending sustained annual double-digit increases. This pace of Chinese military spending increases has continued to this day. The Pentagon estimates total Chinese defense-related expenditures in 2005 at between \$70 billion and \$105 billion, which places China third in nominal dollar defense spending after the United States and Russia.<sup>7</sup>

American intelligence analysts in both Republican and Democratic Administrations have been surprised in recent years at the breathtaking pace and scope of China’s military development.<sup>8</sup> A 2006 Department of Defense report on China’s military power notes that the transformation of the People’s Liberation Army (PLA) has included new doctrines, reform of military institutions and systems, improved exercise and training standards, and the

acquisition of new foreign and domestic weapons systems. China’s military expansion has already altered regional military balances. The long-term trends in China’s military have the potential to pose credible threats to modern militaries.<sup>9</sup>

**Nuclear Forces.** The most ominous of China’s military advances has been in the PLA’s strategic rocket forces, the 2nd Artillery, which includes nuclear and conventional ballistic missile commands and anti-satellite units. In the mid-1990s, the 2nd Artillery embarked on a modernization program designed to improve the reliability, survivability, response times, and accuracy of its ballistic missiles to state-of-the-art standards. Since 1996, it has more than doubled—and in some years has tripled—the annual production of solid-fuel short-range ballistic missiles (SRBMs).<sup>10</sup>

China has also deployed at least 40 intercontinental ballistic missiles (ICBMs) targeted at the United States. The road-mobile DF-21 medium-range ballistic missile (MRBM) has been operational since 1996, and the 2nd Artillery is now introducing road-mobile ICBMs, including the DF-31.<sup>11</sup>

6. Office of Management and Budget, *Historical Tables, Budget of the United States Government, Fiscal Year 2008* (Washington, D.C.: U.S. Government Printing Office, 2007), pp. 49–51, at [www.whitehouse.gov/omb/budget/fy2008/pdf/hist.pdf](http://www.whitehouse.gov/omb/budget/fy2008/pdf/hist.pdf) (March 27, 2007). The U.S. State Department lists China’s annual military expenditures as second only to those of the United States. U.S. Department of State, Bureau of Verification and Compliance, *World Military Expenditures and Arms Transfers 1999–2000* (Washington, D.C.: U.S. Government Printing Office, 2002), p. 38, at [www.state.gov/t/vc/rls/rpt/wmeat/1999\\_2000](http://www.state.gov/t/vc/rls/rpt/wmeat/1999_2000) (April 23, 2007).
7. U.S. Department of Defense, Office of the Secretary of Defense, “Military Power of the People’s Republic of China, 2006,” May 23, 2006, at [www.defenselink.mil/pubs/pdfs/China%20Report%202006.pdf](http://www.defenselink.mil/pubs/pdfs/China%20Report%202006.pdf) (April 23, 2007).
8. Kurt Campbell, former Deputy Assistant Secretary of Defense, noted: “You look back on those studies, and it’s only been a decade, China has exceeded in every area military modernization that even the far-off estimates of the mid-1990s predicted.” Mike Shuster, “Growing Chinese Military Strength Stirs Debate,” *Morning Edition*, National Public Radio, October 17, 2005, at [www.npr.org/templates/story/story.php?storyId=4961290](http://www.npr.org/templates/story/story.php?storyId=4961290) (April 23, 2007). Assistant Secretary of Defense Peter Rodman noted that “we are caught by surprise by the appearance of new systems that suddenly appear fully developed.” Peter Rodman, in hearing, *China’s Military Modernization and U.S. Export Controls*, U.S.–China Economic and Security Review Commission, U.S. Congress, 109th Cong., 2nd Sess., March 16–17, 2006, p. 32, at [www.uscc.gov/hearings/2006hearings/transcripts/march16\\_17/March\\_16-17\\_FINAL.pdf](http://www.uscc.gov/hearings/2006hearings/transcripts/march16_17/March_16-17_FINAL.pdf) (April 23, 2007).
9. The Pentagon already assesses that the “pace and scope of China’s military build-up already puts regional military balances at risk.” U.S. Department of Defense, Office of the Secretary of Defense, *Quadrennial Defense Review Report*, February 6, 2006, p. 29, at [www.defenselink.mil/qdr/report/Report20060203.pdf](http://www.defenselink.mil/qdr/report/Report20060203.pdf) (April 23, 2007).
10. SRBMs were deployed against Taiwan at a pace of 50 per year between 1996 and 2002. Bill Gertz, “Missiles Bolstered Opposite Taiwan,” *The Washington Times*, April 29, 2002, p. A12. By the end of 2006, new SRBM deployments had reached a rate of at least 100 per year. The Pentagon estimates that deployments of M-9 and M-11 missiles increased from 500 to 690 in the Taiwan Strait theater between 2003 and 2004. U.S. Department of Defense, “Military Power of the People’s Republic of China, 2006,” p. 3.
11. Wendell Minnick, “China Speeds ICBM Plans to Debut Missiles with Longer Reach in 2007,” *DefenseNews*, July 10, 2006, p. 1, at [www.defensenews.com/story.php?F=1934631](http://www.defensenews.com/story.php?F=1934631) (April 23, 2007; subscription required).

The DF-31A, which has a range of 10,000 kilometers, is expected to become operational by 2008. Given the known rapid growth in SRBM production, production of MRBMs, intermediate-range ballistic missiles (IRBMs), and ICBMs has likely increased at the same rate. Thus, by 2006, DF-31 output could easily have reached 10–20 new missiles per year.

China's current *Xia*-class ballistic missile submarine is already loaded with Julang-1 (JL-1) solid-fuel missiles, and a longer-range JL variant submarine-launched ballistic missile with a range of 8,000 km will be deployed on China's new *Jin*-class (Type-094) nuclear ballistic missile submarine in three years.<sup>12</sup>

In addition, the PLA will have "several new conventional and nuclear variants of MRBMs and IRBMs for regional contingencies and to augment its long-range missile forces."<sup>13</sup>

Logically, the strategic aim of this rapid expansion of China's nuclear force, particularly the

deployment of DF-31s and DF-31As and a durable submarine-based nuclear capability, is to reduce China's nuclear vulnerability substantially and develop a robust nuclear deterrent focused on the United States.

While Beijing purports to have a nuclear "no first use" (NFU) policy, some U.S. experts believe that the Chinese leadership reserves the right to use nuclear weapons in a first strike against Taiwan or Taiwan's defenders. The unmistakable implication is that U.S. forces defending Taiwan would be targets.<sup>14</sup> This position was explicated on the record by a senior Chinese strategist in 2005.<sup>15</sup> There are indications that the PLA is contemplating the use of a high-altitude nuclear detonation to generate a powerful electromagnetic pulse that would fry microcircuitry in U.S. weapons systems during a conflict.<sup>16</sup> Rather than trying to reduce instability in such a strategic environment, internal PLA military writings treat NFU as a constraint on nuclear operations and reflect considerable resistance to NFU in the PLA.<sup>17</sup>

12. For a comprehensive look at China's missile industry, see Evan S. Medeiros, Roger Cliff, Keith Crane, and James C. Mulvenon, *A New Direction for China's Defense Industry*, RAND Corporation, 2005, pp. 51–108, at [www.rand.org/pubs/monographs/2005/RAND\\_MG334.pdf](http://www.rand.org/pubs/monographs/2005/RAND_MG334.pdf) (April 11, 2006).
13. U.S. Department of Defense, "Military Power of the People's Republic of China, 2006," p. 27.
14. "The Chinese delegate to the U.N. disarmament talks has asserted that since Taiwan is Chinese territory the Chinese no-first-use pledge does not apply." Michael Nacht and Tom Woodrow, "Nuclear Issues," Session 6, in Hans Binnendijk and Ronald N. Montaperto, eds., *Strategic Trends in China* (Washington, D.C., National Defense University Press, 1998), at [www.ndu.edu/inss/books/Books%20-%201998/Strategic%20Trends%20in%20China%20-%20June%2098/chinasess6.html](http://www.ndu.edu/inss/books/Books%20-%201998/Strategic%20Trends%20in%20China%20-%20June%2098/chinasess6.html) (April 23, 2007).
15. On July 14, 2005, at a briefing of foreign journalists, Major General Zhu Chenghu, dean of foreign students at the PLA National Defense University, said that "if the Americans are determined to interfere [then] we will be determined to respond" and that "we Chinese will prepare ourselves for the destruction of all of the cities east of Xi'an. Of course the Americans will have to be prepared that hundreds... of cities will be destroyed by the Chinese." Danny Gittings, "General Zhu Goes Ballistic," *The Wall Street Journal*, July 18, 2005, p. A13.
16. See U.S. Department of Defense, Office of the Secretary of Defense, "Military Power of the People's Republic of China, 2005," July 2005, p. 40, at [www.defenselink.mil/news/Jul2005/d20050719china.pdf](http://www.defenselink.mil/news/Jul2005/d20050719china.pdf) (April 26, 2007). The PLA's eagerness to understand the vulnerabilities of U.S. military radiation-hardened microcircuits is evident from the case of a Chinese scholar who illegally shipped a number of such microchips to a Chinese military research institute in 2001. Spencer S. Hsu, "Scholar Says U.S. Unharmful: Gao Defends Human Rights Efforts, Appeals for Sympathy," *The Washington Post*, November 28, 2003, p. A6.
17. For example, see U.S. Department of Defense, "Military Power of the People's Republic of China, 2006," p. 28. Larry Wortzel notes a significant but subtle difference in terminology in the 2006 Defense White Paper: "The 'White Paper' declares 'China remains *firmly committed* to the policy of no first use of nuclear weapons at any time and under any circumstances.' However, the next sentence of the 'White Paper' tells the reader 'it *unconditionally undertakes a pledge* not to use or threaten to use nuclear weapons against non-nuclear weapon states or nuclear-weapon-free zones.'" Dr. Wortzel notes that "a 'firm commitment to policy' is not as strong a position as an 'unconditional' pledge." Larry M. Wortzel, *China's Nuclear Forces: Operations, Training, Doctrine, Command, Control, and Campaign Planning* (Carlisle, Pa.: U.S. Army War College, Strategic Studies Institute, May 2007).

Hence, China's NFU declaration appears to be intended primarily for propaganda advantage and possibly to encourage complaisance in American decision-making. At least one study shows that Chinese nuclear doctrine seems to make little distinction between conventional ballistic missiles and nuclear-armed ballistic missiles with respect to how they are deployed and used.<sup>18</sup>

Another serious facet of China's nuclear doctrine is that the Central Military Commission deploys nuclear and conventional warheads on the same classes of ballistic missiles and co-locates them near each other in 2nd Artillery units. This doctrine is apparently designed to shorten the escalation fuse in an effort to further complicate U.S. and Japanese responses during a crisis.<sup>19</sup>

Moreover, this modernized and sophisticated nuclear force is clearly well in excess of any mere Taiwan contingency. It involves new power projection capabilities that give Beijing two advantages: "area denial" strength, which is achieved by placing forward-deployed U.S. forces in Japan, Korea, and Guam at risk, and coercive diplomacy instruments to resolve other territorial disputes, such as in the East China Sea with Japan and the South China Sea with other Association of Southeast Asian Nations (ASEAN) countries. Indeed, China's new nuclear weapons systems present grave implications for U.S. power projection in the Western Pacific, the security of U.S. allies and friends in democratic Asia, and regional military balances in general.

**Nuclear Proliferation.** The United States also needs to pay far more attention to China's tacit direct and indirect support for nuclear weapons programs in Pakistan, Iran, and North Korea. Strategic planners in Washington need to consider whether or not China calculates that a nuclear strike launched by Iran on the United States or by North

Korea on the United States or Japan might actually be in China's ultimate interests. The September 11, 2001, attacks on the United States weakened the United States, distracted U.S. policymakers from Asia, and diverted foreign investment flows from the U.S. to China for several years thereafter. A scenario in which Iran or North Korea inflicts major damage on the United States or its allies with a nuclear device could be an underlying motivation for China to give rogue states diplomatic support against U.S. and European pressures to abandon their nuclear programs.

As China refines its missile guidance capabilities, forward-deployed U.S. forces in the Western Pacific will become vulnerable to Chinese missiles. For example, U.S. carrier battle groups could face theater ballistic missiles with maneuverable reentry vehicles (MaRVs) capable of hitting moving ships at sea.<sup>20</sup> The hyperspeeds of these MaRVs make them virtually impossible to defeat with current missile defense technology.

Chinese advances in land attack cruise missiles and theater ballistic missiles will also place U.S. forces in Japan, Korea, and Guam within their range.<sup>21</sup>

**Anti-Satellite Weapons.** Given the American military's highly advertised reliance on space systems, an equally unsettling development is the 2nd Artillery's experimentation with various anti-satellite (ASAT) systems—capabilities that are targeted exclusively at U.S. space assets. On January 12, 2007 (Beijing time), a Chinese DF-21 missile lifted a kinetic kill vehicle (KKV) into an intercept track for a Chinese weather satellite in polar orbit.<sup>22</sup> The missile warhead then fired the KKV at the satellite (perhaps guided by ground-based targeting laser) and successfully destroyed it. U.S. space trackers have monitored but did not publicize at least two previous ASAT tests in July 2005 and February

18. Wortzel describes a conventional missile target set that is identical to a nuclear target set. *Ibid.*

19. *Ibid.*

20. John D. Negroponte, "Annual Threat Assessment of the Director of National Intelligence," Office of the Director of National Intelligence, January 11, 2007, p. 10, at <http://intelligence.senate.gov/070111/negroponte.pdf> (April 26, 2007).

21. Ronald O'Rourke, "China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress," Congressional Research Service Report for Congress, updated February 7, 2007, pp. 5–6, at [www.fas.org/sgp/crs/row/RL33153.pdf](http://www.fas.org/sgp/crs/row/RL33153.pdf) (April 26, 2007).

22. Craig Covault, "Chinese Test Anti-Satellite Weapon," *Aviation Week & Space Technology*, January 22, 2007.

2006. In the February test, the KKV was maneuvered into close range of the target satellite but suddenly veered away.<sup>23</sup>

Given the grievous risks to low-orbit satellites presented by a debris cloud from the January test, why the U.S. did not confront the Chinese following the earlier tests is a mystery.<sup>24</sup> No doubt some Administration officials did not want to antagonize China's space efforts.

In April 2006, shortly before Chinese President Hu Jintao's official visit to Washington, China's Deputy Space Agency Administrator Luo Ge evidently found a receptive audience in the White House for his proposals for joint U.S.–China space cooperation. Mr. Luo requested that the U.S. agree to Chinese participation in the International Space Station (ISS), including making modifications on the orbiting station that would allow Chinese spacecraft to dock, and President Hu and President George W. Bush did discuss Chinese participation in the ISS and cooperation on a future lunar landing effort—an initiative that might explain some of the U.S. hesitation.<sup>25</sup> Some observers speculate that U.S. officials were holding out the prospect of space cooperation to persuade China to accept space launch rules of the road. In fact, China's *People's*

*Daily* touted U.S. interest in manned lunar mission cooperation with China, an obvious propaganda ploy, but the PLA rejected Washington's rules-of-the-road initiatives.<sup>26</sup>

Some enthusiastic support for U.S.–China space cooperation persisted in the White House until August 2006, when the PLA attempted to blind (or illuminate) a U.S. reconnaissance satellite, but that support was resisted by the Pentagon and NASA and by Undersecretary of State Robert Joseph.<sup>27</sup> By the end of September, NASA Administrator Michael D. Griffin was expressing deep frustration that the PLA had blocked any reciprocal access to Chinese space launch facilities or engineering centers. Without transparency in China's programs, especially given China's refusal to coordinate launch information and space debris data, cooperation remained impossible.<sup>28</sup> While senior U.S. military commanders debated on China's ASAT intentions even into October 2006, all but the most ardent apologists admitted that China simply was not prepared for serious international cooperation in space.<sup>29</sup>

The Propaganda Department of the Chinese Communist Party approved a September 28, 2006, commentary in Beijing's *Huanqiu Shibao* that declared: "The United States' exaggeration of China's

23. Private conversations with U.S. analysts.

24. *The New York Times* reports that the Bush Administration pondered how to respond, but that the suggestion that Washington ask Beijing "to forgo the test had been broached by some Pentagon officials" but "was rejected for several reasons," including that "China was unlikely to cancel the test and that there were few good options to punish China if they ignored an American warning." Additionally, "American intelligence agencies were loath to let the Chinese know they were aware of the state of their preparations." Michael R. Gordon and David S. Cloud, "U.S. Knew of China's Missile Test, But Kept Silent," *The New York Times*, April 23, 2007, p. 1.

25. See John J. Tkacik, Jr., "To the Moon," *The Asian Wall Street Journal*, May 9, 2006, p. 18, at <http://online.wsj.com/article/SB114712364365647008.html> (April 26, 2007; subscription required).

26. These conclusions are based on private correspondence with U.S. experts on China's space programs. On May 1, 2006, the Chinese press reported that "US space experts believe that China will launch spacecraft to the Moon in 2017" and that "the United States will send astronauts to the Moon in 2018" so "the two countries have a 'coincident' landing time." "China, US to Join Hands in Lunar Probing?" *People's Daily Online*, May 1, 2006, at [http://english.people.com.cn/200605/01/eng20060501\\_262542.html](http://english.people.com.cn/200605/01/eng20060501_262542.html) (April 26, 2007). China wants the world to believe the next manned lunar mission will be a joint China–U.S. program.

27. Andy Pasztor, "U.S. Asserts a Military Option Is Needed to Guard Space Assets," *The Wall Street Journal*, December 14, 2006, p. A6, at <http://online.wsj.com/article/SB116607013949049936.html> (April 26, 2007; subscription required), and Marc Kaufman, "Talk of Satellite Defense Raises Fears of Space War; U.S. Says Attacks on Crucial Systems Are Possible, Warns It Would Respond Forcefully," *The Washington Post*, December 17, 2006, p. A12, at [www.washingtonpost.com/wp-dyn/content/article/2006/12/16/AR2006121600791.html](http://www.washingtonpost.com/wp-dyn/content/article/2006/12/16/AR2006121600791.html) (April 26, 2007).

28. Warren E. Leary, "NASA Chief, on First China Trip, Says Joint Spaceflight Is Unlikely," *The New York Times*, September 28, 2006, p. A7, at [www.nytimes.com/2006/09/28/science/space/28nasa.html](http://www.nytimes.com/2006/09/28/science/space/28nasa.html) (April 27, 2007).



counter-satellite technology is only an attempt to seek an excuse to justify its development of space weapons.”<sup>30</sup> In retrospect, however, whatever the United States was doing regarding China’s counter-satellite technology, it was not exaggerating it. The January 12, 2007, ASAT test irrefutably confirmed that China was interested solely in scoring propaganda points and not in space cooperation, as China did not seem to feel any obligation to give international notification that it intended to fill a polar orbit 530 miles up with thousands of particles of space debris, each with the potential to damage or destroy space craft orbiting at or below that altitude.<sup>31</sup>

The following week, the State Department filed a démarche with the Chinese government protesting the ASAT test but received no response. A week later, the Pentagon briefed journalists on the test. It was the first time the Department of Defense had reported on China’s KKV–ASAT program, although the Defense Department had described other Chinese ASAT efforts in its annual China military power reports.<sup>32</sup> Subsequently, the Chinese foreign ministry, while not publicly admitting that an ASAT weapon test had taken place, dryly observed that Beijing has shown a “responsible attitude” by offering “explanations” to the U.S. and Japan and insisted that Beijing has all along “upheld the peaceful use of outer space.”<sup>33</sup> “China opposes the weap-

onization of space and any arms race,” the foreign ministry added, pledging reassuringly that “The test is not targeted at any country and will not threaten any country.”<sup>34</sup> Judging from the clueless reaction of China’s foreign ministry to the angry démarches and complaints from several nations with space programs, few outside the PLA chain of command or the Communist Party Politburo were informed of the tests ahead of time or were briefed afterward.<sup>35</sup>

This does not mean that Beijing’s foreign ministry does not have a vital role in China’s ASAT program. Chinese diplomats have the important mission of getting the United States to adhere to a Chinese draft statement, “Preventing an Arms Race in Outer Space” (PAROS), that Beijing has circulated in the United Nations. Although U.S. negotiators have tried to engage Chinese counterparts on Beijing’s thoughts on verification of a PAROS regime, the Chinese have uniformly insisted that they will consider verification issues only after the U.S. has first signed a PAROS agreement.<sup>36</sup> However, this point seems lost on most of America’s allies. China and Russia managed to isolate the United States 160–1 on the PAROS statement in the last meeting of the U.N. First Committee. Israel abstained, while Japan, Britain, and Australia voted for it. The United States needs to be wary of the disastrous potential for Beijing’s public relations

29. See Vago Muradian, “China Tried to Blind U.S. Sats with Laser,” *DefenseNews*, September 26, 2006, p. 1, at [www.defensenews.com/story.php?F=2125489Americas](http://www.defensenews.com/story.php?F=2125489Americas) (April 27, 2007), and Elaine M. Grossman, “Top Commander: Chinese Interference with U.S. Satellites Uncertain,” *Inside the Pentagon*, October 12, 2006, p. 1.

30. Zhang Mingqi, “Duifu Weixing Youjizhao (xiangxi baodao)” (A few ways to counter satellites (detailed report)), *Huanqiu Ribao*, September 28, 2006, p. 8, at [http://paper.people.com.cn/hqsb/html/2006-09/28/content\\_11461231.htm](http://paper.people.com.cn/hqsb/html/2006-09/28/content_11461231.htm) (April 27, 2007).

31. William J. Broad, “Orbiting Junk, Once a Nuisance, Is Now a Threat,” *The New York Times*, February 6, 2007, p. D1.

32. For example, see U.S. Department of Defense, “Military Power of the People’s Republic of China, 2006,” p. 35.

33. Whatever “explanations” the Chinese may have given to American interlocutors were apparently lost in translation. Marine General Peter Pace, chairman of the Joint Chiefs of Staff, said that during his March 2007 visit to Beijing, he received no explanation: “I don’t know what their policy is.... So I am still, as are others, confused about what their intent is.” Peter Spiegel, “Review Ordered into Vulnerability of U.S. Satellites,” *Los Angeles Times*, April 22, 2007, at [www.latimes.com/news/nationworld/washingtondc/la-na-satellite22apr22,1,3289845.story](http://www.latimes.com/news/nationworld/washingtondc/la-na-satellite22apr22,1,3289845.story) (May 7, 2007).

34. Chinese Ministry of Foreign Affairs, press conference, January 23, 2007, at [www.fmprc.gov.cn/eng/xwfw/s2510/2511/t291388.htm](http://www.fmprc.gov.cn/eng/xwfw/s2510/2511/t291388.htm) (April 27, 2007).

35. James Mulvenon, “Rogue Warriors? A Puzzled Look at the Chinese ASAT Test,” Hoover Institution *China Leadership Monitor* No. 20, Winter 2007, at <http://media.hoover.org/documents/clm20jm.pdf> (April 27, 2007).

36. For a comprehensive review of the problems inherent in PAROS negotiations with China, see The Honorable Jon Kyl, “China’s Anti-Satellite Weapons and American National Security,” Heritage Foundation *Lecture* No. 990, February 1, 2007, at [www.heritage.org/Research/NationalSecurity/upload/hl\\_990.pdf](http://www.heritage.org/Research/NationalSecurity/upload/hl_990.pdf).

campaign on the PAROS statement to drive a wedge between the U.S. and its allies.<sup>37</sup>

In this, the Chinese have learned much from Soviet arms control negotiators, who realized by the 1980s that they did not have to rely on verification when dealing with the United States. Once the U.S. signed an arms control agreement, it was self-enforced by America's democratic processes. Moreover, as evidenced by the Soviets' construction of the Krasnoyarsk anti-ballistic missile (ABM) battle-management radar in direct contravention of the ABM Treaty, the Soviets could openly cheat, deny inspections, and confound verification without fear that the U.S. would abrogate the treaty. China appears similarly intent on violating any PAROS agreement by forming covert ASAT units in the 2nd Artillery.<sup>38</sup>

Since the January 12 test, U.S. media reports from the Pentagon have reflected alarm among U.S. space strategists over several other Chinese space weapon initiatives including ground-based lasers and radio frequency weapons.<sup>39</sup> They are particularly concerned about the launching of small Chinese satellites into orbits very close to key U.S. intelligence, reconnaissance, and communications spacecraft.

Such parasitic microsattellites are presumed to be time bombs that could blind and cripple American military operations and financial communications. "These things aren't being sent up there to be space rocks," one military source said.<sup>40</sup> All these programs bespeak an anti-satellite development program that is very broad and sophisticated.<sup>41</sup>

While official U.S. government speculation that China's political leaders may not have known of the ASAT tests<sup>42</sup> is not credible, it is certainly PLA practice to withhold information from civilian departments. The PLA's refusal to inform health authorities about the 2003 SARS epidemic in military hospitals across China is a clear example of this. It is possible that the PLA believed that the January 12 ASAT test would go unnoticed, although for 18 months before the test the Pentagon had extended a standing invitation to China's 2nd Artillery commanders to visit U.S. Strategic Command to discuss the dangers of space debris and how the U.S. tracks it.<sup>43</sup> Few doubt that the PLA is fully aware of U.S. Strategic Command's and Air Force Space Command's space tracking capabilities and fully appreciates that the U.S. would detect the debris cloud immediately

- 
37. Press release, "Disarmament Committee Approves Text Reaffirming Urgency of Preventing Outer Space Arms Race, Need for Reinforcing Existing Legal Regime," GA/DIS/3334, U.N. General Assembly, October 25, 2006, at [www.un.org/News/Press/docs/2006/gadis3334.doc.htm](http://www.un.org/News/Press/docs/2006/gadis3334.doc.htm) (April 27, 2007).
38. Michael P. Pillsbury, "An Assessment of China's Anti-Satellite and Space Warfare Programs, Policies and Doctrines," U.S.–China Economic and Security Review Commission, January 19, 2007, pp. 21–47, at [www.uscc.gov/researchpapers/2007/FINAL\\_REPORT\\_1-19-2007\\_REVISIED\\_BY\\_MPPP.pdf](http://www.uscc.gov/researchpapers/2007/FINAL_REPORT_1-19-2007_REVISIED_BY_MPPP.pdf) (April 27, 2007).
39. For example, see Reuters, "Satellite Surprise Highlights U.S.–China Gap—Official," *DefenseNews*, February 1, 2007, at [www.defensenews.com/story.php?F=2525587](http://www.defensenews.com/story.php?F=2525587) (April 27, 2007), and Bill Gertz, "Officials Fear War in Space by China," *The Washington Times*, January 24, 2007, at [http://washingtontimes.com/national/20070124-121536-8225r\\_page2.htm](http://washingtontimes.com/national/20070124-121536-8225r_page2.htm) (April 27, 2007). For descriptions of Chinese ASAT programs, see U.S. Department of Defense, "Military Power of the People's Republic of China, 2006," pp. 34–35.
40. Vago Muradian, "China's Mystery Satellites; U.S. Gauges Beijing's ASAT Strategy," *DefenseNews*, February 5, 2007, at [www.defensenews.com/story.php?F=2528099](http://www.defensenews.com/story.php?F=2528099) (April 27, 2007).
41. General James E. Cartwright told a Senate panel on March 28, 2007, that "they [the Chinese] have—they have undertaken a what we would call a very disciplined and comprehensive continuum of capability against space—our space capabilities, okay—all the way from temporary and reversible effects that could be—examples would be GPS jamming, things like that, COM jamming, all the way through direct ascent ASAT. And eventually, they'll probably be looking at co-orbital. And then, the one that you really worry about is introducing weapons of mass destruction into space on a missile." General James E. Cartwright, testimony before the Committee on Armed Services, U.S. Senate, March 28, 2007.
42. David E. Sanger and Joseph Kahn, "U.S. Officials Try to Interpret China's Silence over Satellite," *The New York Times*, January 22, 2007, p. A3.
43. See Richard Lawless, testimony before the U.S.–China Economic and Security Review Commission, February 1, 2007, at [www.uscc.gov/hearings/2007hearings/written\\_testimonies/07\\_02\\_01\\_02wrts/07\\_02\\_1\\_2\\_lawless\\_richard\\_statement.pdf](http://www.uscc.gov/hearings/2007hearings/written_testimonies/07_02_01_02wrts/07_02_1_2_lawless_richard_statement.pdf) (April 27, 2007).

after a successful ASAT test. While low-level officials in China's foreign ministry have admitted that they knew nothing of the ASAT tests, most observers agree that the civilian party and government leaders, at least at the Politburo level, are extensively briefed on important military advances.<sup>44</sup>

**Naval Forces.** China is now the world's largest commercial shipbuilder, and its naval ship production has slipstreamed behind the civilian sector.<sup>45</sup> President Hu's speech to the PLA Navy on December 27, 2006, indicated clearly—if not explicitly—that China is preparing to confront the United States at sea and under the sea.<sup>46</sup> China's navy is also upgrading its naval aviation and power projection capacities. China's naval modernization, Hu reported, "has made great strides, comprehensive combat capabilities have strengthened visibly, and we have achieved new heights and made new contributions to the various missions which the Party and the people have bestowed."

A few days later, China's Defense White Paper declared: "The Navy aims at gradual extension of the strategic depth for offshore defensive operations and enhancing its capabilities in integrated maritime operations and nuclear counterattacks."<sup>47</sup> China has already assembled a modern submarine fleet of 29 advanced diesel-electric submarines, including 12 super-quiet Russian-made *Kilo*-class subs<sup>48</sup> and 14 Chinese-made *Song*-class and *Yuan*-

class boats. At least 10 more conventional and nuclear submarines are under construction in Chinese shipyards, with another five new nuclear ballistic missile and attack subs on the drawing boards.

China's surface fleet is undergoing a similar modernization, and the PLA Navy (PLAN) is refitting the former Soviet aircraft carrier *Varyag* for sea duty—at the very least as a training platform for naval pilots.

**Submarine Force.** Chinese submarines slip out into open seas from underwater tunnels and are virtually undetectable. In 2004, U.S. intelligence officials admitted that development of the *Yuan*-class submarines was concealed from American satellites because they were constructed in an underground dry dock in south-central China.<sup>49</sup> The PLAN's *Song* submarines are stealthy diesel-electrics equipped with long-range wake-homing torpedoes designed to sink aircraft carriers.

In September 2006, Rear Admiral Ding Yiping, China's top submarine officer and PLAN Vice Chief of Staff, sent a *Song* submarine on a mission to hunt an American carrier. On October 27 (October 26, Washington time), the submarine surfaced in waters off Okinawa within torpedo range of the U.S.S. *Kitty Hawk*, where it was seen in the *Kitty Hawk's* wake by an F-18 pilot on landing approach. It then submerged and disappeared, defeating all U.S. anti-submarine warfare (ASW) efforts to detect it.<sup>50</sup> The carrier battle group's ASW systems did not

44. Mulvenon speculates that the ASAT program was approved by the civilian leadership, but "the civilians should be faulted for not maintaining closer oversight of the program and not calculating the possible negative international diplomatic repercussions of a successful test." Mulvenon, "Rogue Warriors?" pp. 2–3.

45. See "China Tops Korea Again for New Ship Orders," *Chosun Ilbo*, March 20, 2007, at <http://english.chosun.com/w21data/html/news/200703/200703200009.html> (April 27, 2007). During the first two months of 2007, Chinese shipyards accounted for almost half of the total tonnage of all new ship orders worldwide, up 48 percent from 2006 levels and outpacing South Korea as the world's top vendor.

46. Cao Zhi and Chen Wanjun, "Hu Jintao zai huijian Haijun di shice dangdaihui daibiao shi qiangdiao; anzhaogeminghua, xiandaihua, zhengguihua xiangtongyide yuanze; duanzao shiyong wojun lishi shi ming yaoqiude qiangda renmin haijun; Guo Boxiong, Cao Gangchuan, Xu Caihou canjia huijian" (Meeting Navy representatives at the 10th party congress, Hu Jintao stresses that integrating principles of revolutionization, modernization, and regularization to forge a strong People's Navy fulfills the requirements of our historic mission. Guo Boxiong, Cao Gangchuan and Xu Caihou present), *Renmin Ribao*, December 28, 2006, p. 1, at [http://paper.people.com.cn/rmrb/html/2006-12/28/content\\_12168965.htm](http://paper.people.com.cn/rmrb/html/2006-12/28/content_12168965.htm) (April 27, 2007).

47. Chinese State Council, *China's National Defense in 2006*, chap. II.

48. China seems to have at least 10 *Kilo*-class submarines now: four *Kilo* 877s, six *Kilo* 636s, and two additional *Kilo* 636s that are no longer in Russian shipyards but are not yet necessarily deployed by the PLAN.

49. Bill Gertz, "Commercial Photos Show Chinese Nuke Buildup," *The Washington Times*, February 16, 2006, at [www.washingtontimes.com/national/20060216-020211-7960r.htm](http://www.washingtontimes.com/national/20060216-020211-7960r.htm) (April 27, 2007).

detect the sub because it had apparently waited—submerged, stationary, and silent—for at least one day as the task force approached the area. Beijing's state-controlled media reported that Admiral Ding had personally commanded the entire operation, perhaps even skipping the submarine himself, and predicted that the success of his mission would lead to a promotion.<sup>51</sup>

In March 2007, a Chinese newspaper described the jubilant homecoming ceremony for a submarine at “a certain naval port in southern China”:

[O]n this day marked by a soft breeze and dazzling sun, amid deep gentle currents, a new type of Chinese Naval vessel courses steadily into harbor's bay after the flawless completion of its special test. On the pier are two columns of naval officers and soldiers lined up in full dress uniform to salute the victorious return of the ship. The dockside is filled with fresh flowers and the sound of applause.<sup>52</sup>

This article describes an extravagant welcoming home for a vessel returning from sea trials, but it never identifies the type of ship or the nature of the experimental propulsion system that it was

testing. However, myriad hints suggest that the ship was a submarine steaming with “air independent propulsion,” a conclusion evidently shared by other analysts.<sup>53</sup> And although unverifiable, it may also be, given the circumstances, the very same submarine encountered by the *Kitty Hawk*.

The official Chinese press noted the PLA high command's confidence in Admiral Ding—ample evidence of their pleasure at the success the mission against the *Kitty Hawk*. The Chinese foreign ministry's protest that the vessel had not stalked the *Kitty Hawk* is likely the literal truth, indicating that the submarine simply waited submerged until the U.S. battle group sailed over it.<sup>54</sup> The ease with which the submarine maneuvered undetected into Japanese waters and evaded U.S. and Japan Self Defense Force submarine sensors suggests that China's large submarine fleet engages in far more sea patrols than the U.S. has any hope of tracking.<sup>55</sup> Like the January ASAT test, this incident was a clear message to the United States that China is *the* rising power in the Pacific.

China's submarine fleet is now considered the PLAN's most “potent strength.”<sup>56</sup> Since 1995, the

50. Audra Ang, “Admiral Downplays China Sub Incident,” *The Washington Post*, November 17, 2006, at [www.washingtonpost.com/wp-dyn/content/article/2006/11/17/AR2006111701469.html](http://www.washingtonpost.com/wp-dyn/content/article/2006/11/17/AR2006111701469.html) (April 27, 2007). Private conversations with U.S. analysts indicate that the submarine was spotted accidentally by an F-18.
51. “Gencong Xiaoying, Ding Yiping zuozhen zhihui; Haijun zhongda xingdong zhihuiguan zhiyi 2003 nian yin qianting shigu bei jiangzhi; jinnian 8 yue beige jinsheng fusilingyuan; yuji sannian hou geng shang cenglou” (Shadowing the *Kitty Hawk*, Ding Yiping in personal command; one of commanders of the major naval operation was demoted because of a 2003 submarine accident; promoted to deputy commander of the navy this August; predicted for another step up within three years), *Shijie Ribao*, November 16, 2006, p. A1 at [www.worldjournal.com/wj-ch-news.php?nt\\_seq\\_id=1445428](http://www.worldjournal.com/wj-ch-news.php?nt_seq_id=1445428) (April 27, 2007).
52. The article describes the work of Dr. Jin Donghan, a Chinese naval propulsion engineer, and his team at the 722 Institute in perfecting a new marine engine and overcoming problems of “high pressure combustion” in “small spaces,” “gas recirculation,” and other technical challenges that sound suspiciously like an air independent propulsion (AIP) system. The author goes out of his way to insist that the technology is “entirely Chinese intellectual property” to “overcome the blockade of foreign technology.” Qi Yao, “Wei Woguo Xinxing Jianchuan tigong Qiangjingde ‘Zhongguo Xin’” (Providing our country's new warships with a powerful ‘Chinese heart’), *Keji Ribao* (Science and Technology Daily), March 14, 2007, at [www.stdaily.com/gb/stdaily/2007-03/14/content\\_643783.htm](http://www.stdaily.com/gb/stdaily/2007-03/14/content_643783.htm) (May 8, 2007).
53. See Jonathon Weng and Richard Scott, “China Develops Stirling AIP Technology for Submarines,” *Jane's Navy International*, April 1, 2007.
54. “Waijiaobu: Zhongguo Qianting we isui Mei ‘Xiaoying’ hao hangmu baodao bu shi” (Foreign Ministry: Report of Chinese submarine tailing ‘Kitty Hawk’ carrier not fact), *Xinhua*, November 16, 2006, at <http://world.people.com.cn/GB/1029/5052209.html> (April 27, 2007).
55. A Federation of American Scientists blog says that the U.S. detected only two PLAN submarine patrols in 2006 and none in 2005. Hans Kristensen, “Chinese Submarine Fleet Continues Low Patrol Rate,” *Federation of American Scientists Strategic Security Blog*, February 6, 2007, at [www.fas.org/blog/ssp/2007/02/post\\_2.php](http://www.fas.org/blog/ssp/2007/02/post_2.php) (April 27, 2007).
56. U.S.–China Economic and Security Review Commission, *2006 Report to Congress*, November 2006, p. 135.



PLAN has commissioned about 31 new submarines, including two nuclear-powered submarines based on advanced Russian technology.<sup>57</sup> Eight submarines were commissioned in 2005, and seven were commissioned in 2006, including new *Song*-class boats and a *Yuan*-class boat heavily inspired by Russia's *Amur*-class sub with its anechoic tile coatings and quiet seven-bladed skewed propeller.<sup>58</sup> The reported incorporation of "air-independent propulsion" systems that permit submarines to operate underwater for up to 30 days would make the *Song* and *Yuan* submarines virtually undetectable to existing U.S. surveillance networks.<sup>59</sup>

In addition, China has three new nuclear-powered submarine design and construction programs. The Type-093 *Shang*-class nuclear attack boat and the Type-094 *Jin*-class nuclear ballistic missile submarine programs are underway. Two *Shang* submarines are deployed, and three are under construction, and five *Jin*-class ballistic missile submarines are reportedly under construction. Five Type-095 submarines, a larger version of the *Shang/Jin* hull, are also under development.<sup>60</sup> Together with its procurement program for improved Rus-

sian-made *Kilo*-class submarines, China has at least six new submarine programs under way simultaneously—a submarine development campaign that is unprecedented in peacetime. China will have at least 34 advanced submarines deployed in the Pacific by 2010—some analysts expect as many as 50 to 60—assuming that those under construction will be completed within three years. China will certainly have over 60 advanced submarines by 2020.<sup>61</sup>

Meanwhile, the United States has three submarines under construction today, is downsizing submarine shipyards, and is laying off expert technicians needed for submarine construction. Under current construction and decommissioning schedules, the U.S. Navy's total submarine force will drop to 48 boats in 2020, 17 percent below the Pentagon's own stated requirement of 58—a level that cannot provide more than 60 percent of the U.S. Navy's existing submarine mission requirements. By 2027, the U.S. Navy will have less than 40 submarines.<sup>62</sup>

**Surface Combatants.** The PLAN is also lavishing financial resources on its surface fleet. It received the second of its two Russian-made *Sovremennyi II* guided missile destroyers in September 2006, fitted

57. O'Rourke, "China Naval Modernization," pp. 7–11.

58. Some observers consider the *Yuan*-class submarines under construction in Wuhan to be an improved version of the *Song* class. See "Songji Gailiang Qianjian, Haijun Weilai Zhuli, Waigou Eluosi Kji Qianjian, Tianbu Changgui Zhanli Kongxi, Bing Jiji Yanshi Xinjian" (Improved *Song*-class submarine is main force of future Chinese navy, with Russian *Kilo*-class, to buttress conventional force posture in region, actively research and develop new vessels), *Shijie Ribao*, June 1, 2005, p. A8.

59. Lyle Goldstein and William Murray, "Undersea Dragons: China's Maturing Submarine Force," *International Security*, Vol. 28, No. 4 (Spring 2004), at [www.uscc.gov/hearings/2004hearings/written\\_testimonies/04\\_02\\_06wrts/goldsteinmurray\\_us\\_china\\_commission.htm](http://www.uscc.gov/hearings/2004hearings/written_testimonies/04_02_06wrts/goldsteinmurray_us_china_commission.htm) (April 27, 2007), and Weng and Scott, "China Develops Stirling AIP Technology for Submarines."

60. Bill Gertz, "China Expands Sub Fleet," *The Washington Times*, March 2, 2007, p. A1, at [www.washingtontimes.com/national/20070302-012440-4462r.htm](http://www.washingtontimes.com/national/20070302-012440-4462r.htm) (April 27, 2007). Little is reported about the Type-095 except that design work is apparently completed. Some reports describe it as an improved attack submarine, while others indicate that it will be a ballistic missile boat. See U.S. Department of Defense, "Military Power of the People's Republic of China, 2006," pp. 26 and 27. For a graphic of China's current submarine fleet, see Vivek Raghuvanshi, "Leased Akulas Advance India's Blue-Water Plans," *DefenseNews*, March 5, 2007, p. 12.

61. Including at least five Type-94 *Jins*, five Type-093 *Shangs*, five Type-095s, one *Yuan*, 13 *Songs*, and 13 *Kilo* 877s and 636s. For the higher estimates, see hearing, *China's Military Power*, Committee on Armed Services, U.S. House of Representatives, 109th Cong., 1st Sess., July 27, 2005.

62. The United States will soon experience a depletion of its submarine fleet, which will drop below 48 by 2020 (probably sooner, given the heightened operational tempo) and below 40 by 2027, despite an optimal fleet size of 68 and an absolute minimum of 58. The U.S. Navy's submarine fleet can now fulfill only 62 percent of its mission requests—a percentage that drops every year. See testimony of Vice Admiral John J. Donnelly, Commander U.S. Submarine Forces, *et al.*, in hearing, *Submarine Force Structure and Acquisition Policy*, Subcommittee on Seapower and Expeditionary Forces, Committee on Armed Services, U.S. House of Representatives, 110th Cong., 1st Sess., March 8, 2007.

with advanced anti-ship cruise missiles and sophisticated wide-area air defense systems, a qualitative improvement over even China's two advanced-technology *Sovremenny* ships acquired in 2000.<sup>63</sup>

In 2005, the PLAN launched its newest ships: *Luzhou*-class (Type 051C) guided missile destroyers equipped with Russian SA-N-20 air defense systems and a Tombstone phased-array radar that doubles the range of current PLA Navy air defense weapons. The *Luzhou* destroyer complements ongoing developments of the *Luyang* I (Type 052B) guided missile destroyers (similar to the *Sovremenny*) and *Luyang* II (Type 052C) guided missile destroyer. The *Luyang* I is equipped with the Russian SA-N-7B Grizzly air defense missiles and YJ-83 anti-ship cruise missiles. The *Luyang* II is also fitted with Chinese-produced HHQ-9 air defense missiles.<sup>64</sup> The PLAN's deployment of eight new classes of Chinese-built destroyers and frigates since 1994 and the launching of 13 new frigates since 1998 are, as one congressional analyst notes, "an undertaking with few parallels by any country in recent decades."<sup>65</sup>

China's naval buildup has two other intriguing aspects: aircraft carriers and amphibious assault ships, both designed for region-wide projection of soft and hard power. These would not be particularly useful in a Taiwan Strait scenario, given the fairly short distances between Taiwan and the Chinese coast. Rather, they appear intended to project China's military force out into the East Asian and

Pacific region in crises or confrontations in which they would not be challenged by hostile submarines.

**The *Varyag*.** For over a year, the PLAN has been more or less open about China's eventual deployment of an aircraft carrier battle group. Except for the carrier, China has all the elements of a carrier battle group in place, according to Lieutenant General Wang Zhiyuan of the PLA General Armaments Department.<sup>66</sup> China will finish constructing its first aircraft carrier by 2010, according to an unnamed lieutenant general (probably General Wang again),<sup>67</sup> but its first operational carrier will likely be the *Varyag*, the former Soviet carrier bought from Ukraine.

China's once-secret naval aviation program appears to be underway at full steam. At its center is the massive 67,000-ton former Ukrainian aircraft carrier, which the Chinese government extracted from the Black Sea in 2001 after considerable costs in both treasure and political capital with Turkey.<sup>68</sup> In March 2002, the *Varyag* finally completed its 15,200-mile journey to its new home port of Dalian, where it was immediately placed under heavy security at the PLAN dry docks.<sup>69</sup>

China has reportedly negotiated a contract for 48 Sukhoi-33 jet fighters, the carrier-based version of the Su-27, and is now preparing the *Varyag*'s flight deck for flight operations.<sup>70</sup> Reports in the PRC media indicate that China will also configure its new Jian-10 fighter for carrier operations.<sup>71</sup>

63. Nabi Abdullaev, "Russia Sends 4th Destroyer to China," *DefenseNews*, October 9, 2006, at [www.defensenews.com/story.php?F=2152422](http://www.defensenews.com/story.php?F=2152422) (April 27, 2007).

64. U.S. Department of Defense, "Military Power of the People's Republic of China, 2006," pp. 4, 5, 26, and 48.

65. O'Rourke, "China Naval Modernization," p. 12.

66. "Junfang: Yao fazhan hangmu jianhui, zhuan jian zaiji, fushu jianting kuai wancheng, keneng xian zhuangbei Nanhai" (Military: China will develop aircraft carrier group, sources say carrier-based planes and escort ships almost complete, will probably first deploy in South China Sea), *Shijie Ribao*, March 10, 2006, at [www.worldjournal.com/wj-ch-news.php?nt\\_seq\\_id=1323694](http://www.worldjournal.com/wj-ch-news.php?nt_seq_id=1323694) (April 27, 2007).

67. "Zhongguo Hangmu 2010 nian qian zhicheng; Renda Jiefangjun daibiaotuan zhongjiang: Zhongguo you quanli, you shili, taguo wu quan guowen" (China will complete construction of aircraft carrier by 2010; lieutenant general in People's Congress PLA delegation: China has the right, and the power, and other nations have no right to question it), *Shijie Ribao*, March 7, 2007, p. A4, at [www.worldjournal.com/wj-ch-news.php?nt\\_seq\\_id=1497958](http://www.worldjournal.com/wj-ch-news.php?nt_seq_id=1497958) (April 27, 2007).

68. John Ward Anderson, "Turks Keep Ship Going Round in Circles; It's No Longer a Carrier, Not Yet a Casino," *The Washington Post*, July 22, 2001, p. A18.

69. Ruan Leyi, "Wayagehao mujian hu yanmi" (*Varyag* carrier under heavy security), *Zhongguo Shibao*, May 13, 2002, and Ruan Leyi, "Zhonggong gouru wei wangong Ezhi hangmu rinei tongguo Taiwan dongbu" (Unfinished Russian-built aircraft carrier purchased will transit east of Taiwan in next few days), *Zhongguo Shibao*, February 19, 2002.

The PLAN Air Force (PLANAF) schedule apparently envisions developing a carrier air wing by the time China launches its own aircraft carrier,<sup>72</sup> despite official Beijing's continuing protestations that while "China already is capable of building an aircraft carrier, a final decision on construction has not yet been made."<sup>73</sup>

**Amphibious Landing Vessels.** A carrier force is only half of the naval power projection formula. The ability to land a significant ground force on a distant shore is the other half. In 2003–2005, China built three new classes of landing craft, including 19 amphibious ships and 10 amphibious landing craft.<sup>74</sup> On December 20, 2006, China launched the PLAN's largest combat amphibious assault ship, an indigenously designed amphibious landing dock (LPD) identified as the Type 071, which is similar to but a little bigger than the U.S. *Whidbey Island*-class LPD.<sup>75</sup> Designed in the 10th five-year plan (2001–2005), the ship was built in about six months in the second half of 2006 and appears to be the first of four LPDs. The Type 071 appears to be designed to land 500–800 troops and 25–50 armored vehicles and supplies using 15 landing craft or several large hovercraft. It will carry at least two Changhe Z-8 helicopters, each capable of transporting 30 soldiers inland beyond the beachhead.

The prospect of being able to assemble a significant show of military and naval force during some future instances of anti-Chinese upheavals in Southeast Asia or the Pacific islands rather than chartering evacuation flights is no doubt attractive in the Politburo. One or two instances of Chinese military intervention in regional Asia–Pacific unrest, with an aircraft carrier and a few LPDs carrying a brigade or more of PLA special forces troops, would establish China as the preeminent Asian power and demonstrate its readiness to defend Chinese émigrés in any country in Asia. As President Hu exhorted the PLAN in December 2006, "China is a great maritime nation; in the defense of national sovereignty and security, and protecting our nation's maritime rights, the navy's role is important and its mission is glorious."<sup>76</sup>

**Air Forces.** Although the modernization of the PLA Air Force has taken a backseat to nuclear, space, and naval development, the PLAAF is a much more modern fighting force in 2007 than it was in 1997. It now boasts about 450 advanced fighter aircraft, including about 300 Russian-designed fourth-generation Su-27 Flankers and Chinese Jian-11s and 76 Su-30MKK fighter-bombers, which display substantial ground attack capabilities and are armed with Russia's most advanced air-to-air missiles.<sup>77</sup>

70. "China to Buy Su-33 Carrier-Based Fighters from Russia?" *Defense Industry Daily*, November 17, 2006, at [www.defenseindustrydaily.com/2006/11/china-to-buy-su33-carrierbased-fighters-from-russia/index.php](http://www.defenseindustrydaily.com/2006/11/china-to-buy-su33-carrierbased-fighters-from-russia/index.php) (April 27, 2007).
71. Ruan Leyi, "Zhonggong yi neng dazao hangmu, xiang wei dingan poban" (PRC now capable of building carrier; decision not final), *Zhongguo Shibao*, January 10, 2007. For a comprehensive look at China's aircraft carrier program as of 2002, see Richard D. Fisher, Jr., "China's Carrier of Chance," Jamestown Foundation *China Brief*, Vol. 2, Issue 6 (March 14, 2002), at [www.jamestown.org/publications\\_details.php?volume\\_id=18&issue\\_id=646&article\\_id=4621](http://www.jamestown.org/publications_details.php?volume_id=18&issue_id=646&article_id=4621) (April 27, 2007).
72. The official media in China appear to be encouraging Chinese readers to believe that China is, in fact, moving toward deployment of a carrier fleet. For a series of images in a blog on a *People's Daily* Web site, see "Haiwai kan Zhongguo: Zhongguo goumaide Su-33 ji jiang zai hangmushang shifei" (How China is seen abroad—China buys Russian Su-33 fighters for carrier test), *Qiangguo Shequ* (powerful nation community), December 29, 2006, at [military.people.com.cn/GB/42969/58519/5228125.html](http://military.people.com.cn/GB/42969/58519/5228125.html) (April 27, 2007).
73. Ruan Leyi, "Yao bu yao hangmu, qu jueyu zhanlue xuyao" (An aircraft carrier or not—depends on strategic demand), *Zhongguo Shibao*, January 10, 2007.
74. O'Rourke, "China Naval Modernization," p. 15.
75. Richard Fisher, Jr., "China's New Large Amphibious Assault Ship," International Strategy and Assessment Center, January 8, 2007, at [www.strategycenter.net/research/pubID.136/pub\\_detail.asp](http://www.strategycenter.net/research/pubID.136/pub_detail.asp) (April 27, 2007).
76. Cao Zhi and Chen Wanjun, "Hu Jintao zai huijian Haijun di shice dangdaihui daibiao shi qiangdiao."
77. Kevin Lanzit, "PLAAF Transformation—a Midpoint Review," paper presented at conference, "Exploring the 'Right Size' for China's Military: PLA Missions, Functions, and Organizations," Carlisle Barracks, Pa., October 6–8, 2006, p. 4.

In January 2007, the PLAAF unveiled its new Jian-10 multirole fighter jet, which is based on the Israeli *Lavi* airframe, itself an evolutionary offshoot of the F-16. As of March 2007, the PLAAF had reportedly deployed 60 Jian-10s, with the total production run estimated at around 250.<sup>78</sup> Although its forward-wing canards are a novelty among Chinese-designed fighters, the Jian-10's most remarkable characteristic is its midair refueling module.<sup>79</sup> The PLAAF has been practicing in-flight refueling since at least 2005 with both Su-27 and older Jian-8 fighters.<sup>80</sup> Following Peace Mission 2005, a joint Chinese–Russian military exercise on China's Shandong peninsula, China contracted for six to 10 Ilyushin-78s configured as aerial refueling platforms and 30 Ilyushin-76 cargo aircraft configured for paratroop drops.<sup>81</sup>

The increasing size of China's fourth-generation fighter fleet,<sup>82</sup> which is heavily armed with the latest Russian and Chinese air-to-air missiles and equipped with fire control systems and refueling modules, gives the PLAAF a technological and numerical edge in the Taiwan Strait. The Pentagon estimates that China has deployed more than 700 fighters in the Taiwan Strait theater.<sup>83</sup>

On the other side of the strait, Taiwan has roughly 320 fourth-generation fighters: 56 Mirage-2000-5s, 146 F-16s, and 128 Taiwanese-designed Ching-kuo fighters. Furthermore, Taiwan has only 120 AIM-120 missiles for its 146 F-16s—less than one per F-16. One U.S. official privately commented, “if they want to bring down a second Chinese Su-27, they have to crash into it.”<sup>84</sup> Of course, this assumes that the PLA's Su-27 fighters or its SA-10, SA-20, or Russian S-300PMU2 missiles do not shoot them down first.<sup>85</sup>

The goal of the PLAAF's buildup is quite transparent. According to the 2006 Defense White Paper, the PLAAF “aims at speeding up its transition from territorial air defense to both offensive and defensive operations, and increasing its capabilities in the areas of air strike, air and missile defense, early warning and reconnaissance, and strategic projection.”<sup>86</sup>

**Ground Forces.** China's standing army of 1.64 million men is the largest in the world and is now undergoing a comprehensive modernization. Hoping to persuade the outside world that downsizing the PLA's ground forces is a key component of China's military modernization, Beijing's 2006 Defense White Paper makes much of the demobili-

78. See Phillip C. Saunders and Erik Quam, “Future Force Structure of the Chinese Air Force,” paper presented at conference, “Exploring the ‘Right Size’ for China's Military,” p. 8. Some estimates of the production run are as high as 300. Taiwan's defense ministry apparently believes it will be capped at 120. Agence France-Presse, “China Looks to New Fighters, Sparking Regional Arms Race: Report,” *DefenseNews*, January 31, 2007, at [www.defensenews.com/story.php?F=2521412](http://www.defensenews.com/story.php?F=2521412) (April 27, 2007); Rich Chang, “China Deploys Advanced Fighters,” *Taipei Times*, January 22, 2007, p. 1, at [www.taipeitimes.com/News/front/archives/2007/01/22/2003345791](http://www.taipeitimes.com/News/front/archives/2007/01/22/2003345791) (April 27, 2007); and Chua Chin Hon, “China Unveils New Fighter Jet Amid Fanfare,” *Straits Times*, January 5, 2007, at [www.taiwansecurity.org/ST/2007/ST-050107.htm](http://www.taiwansecurity.org/ST/2007/ST-050107.htm) (April 27, 2007).

79. Wendell Minnick, “China Fields Indigenous J-10 Fighter Aircraft,” *DefenseNews*, January 6, 2007, at [www.defensenews.com/story.php?F=2460838](http://www.defensenews.com/story.php?F=2460838) (April 27, 2007).

80. “Kongzhong jiyao, Jiefangjun zuodao; yanchang zhandouji daikong shijian; zengqiang yuancheng gongji nengli” (PLA achieves midair fueling, prolongs fighter loiter time, strengthens long-distance attack capabilities), *Shijie Ribao*, April 24, 2005.

81. “Junyan jieshu, jungou kaishi, Zhonggong xiading, caigou yunshuji jiayouji” (After China–Russia military exercise, arms buys begin, PRC contracts purchase of cargo and refueling aircraft), *Zhongguo Shibao*, August 29, 2005.

82. Chinese journals refer to the Su-27 and Jian-10 as “third generation” fighters.

83. U.S. Department of Defense, “Military Power of the People's Republic of China, 2006,” p. 4.

84. Private conversation with U.S. official. A Taiwan request for over 400 new AIM-120 air-to-air missiles and Maverick air-to-ground missiles was approved by the Pentagon on March 1, 2007. News release, “Taipei Economic and Cultural Representative Office in the United States—AMRAAM and Maverick Missiles,” Defense Security Cooperation Agency, February 28, 2007, at [www.dsca.mil/PressReleases/36-b/2007/Taiwan\\_07-10.pdf](http://www.dsca.mil/PressReleases/36-b/2007/Taiwan_07-10.pdf) (April 27, 2007).

85. For a depiction of the “notional coverage provided by China's SA-10, SA-20 SAM systems, as well as the soon-to-be acquired S-300PMU2,” see U.S. Department of Defense, “Military Power of the People's Republic of China, 2005,” p. 32, Figure 8.

86. See Chinese State Council, *China's National Defense in 2006*, chap. IV.



zation of over 200,000 PLA troops between 2003 and 2005, reducing the regular army from 1.84 million men to 1.64 million.<sup>87</sup> However, the demobilization's main effect appears to have been to move the downsized troops out of PLA roles and to reassign them to provincial militias and reserve units or to change their status to non-active-duty contract personnel (*feixianyi renyuan* and *wenzhi renyuan*), whose salaries are not part of the published national military budget.<sup>88</sup>

However, China is not neglecting its ground forces in favor of nuclear, naval, and air services. The sole thrust of ground troop reductions is to construct a more effective fighting force.<sup>89</sup>

While PLA ground force modernization includes important organizational, training, doctrinal, and logistical reforms, it would be of little use without significant equipment upgrades. For example, the PLA's workhorse Type 96 main battle tank is gradually being replaced by the Type 98, which arguably outclasses its U.S. counterpart, the M-1A2 Abrams.<sup>90</sup> The PLA is also being outfitted with the Type-63A, a new amphibious light tank described as "the most heavily armed amphibious tank in the world." PLA Amphibious Army and PLAN Marine units have received 400 to 600 Type-63As.<sup>91</sup>

The equipment modernization also includes new Russian and Chinese helicopters, unmanned aerial vehicles, self-propelled guns, mobile surface-to-air

missiles and launchers, multiple rocker launchers, small all-terrain vehicles for special operations forces, and a panoply of new small arms. In addition, the PLA is developing a new class of amphibious assault hovercraft, which appears designed to carry 60 to 75 tons of cargo or one main battle tank.<sup>92</sup>

**Cyberwarfare Forces.** Perhaps the most prominent buzzword in China's 2006 Defense White Paper is "informationization" (*xinxihua*). The PLA ground forces organized their first cyberwarfare units (*zixunhua budui*) in early 2003.<sup>93</sup> They have since become a highly active element in China's ground force organization, no doubt building on the expertise developed in the late 1990s by China's police and state security services, which are well equipped and well trained in using the Internet and cell phone networks to monitor, identify, locate, and censor cyberdissidents. New PLA doctrine indicates that computer network operations (CNO) are now seen as a force multiplier in any confrontation<sup>94</sup> with the United States and other potential adversaries, including Taiwan, Japan, South Korea,<sup>95</sup> and even the United Kingdom.

Since then, PLA cyber units seem to have been active and to have become highly sophisticated. They apparently are the only PLA units that regularly attack enemy targets in the course of their duties.

On November 1, 2004, according to *Time* magazine, PLA cyberwarfare troops "sat down at com-

87. The 2006 Defense White Paper says that the PLA numbers 2.3 million, but this apparently includes the 660,000 in the People's Armed Police (*wuzhuang jingcha*). U.S.–China Economic and Security Review Commission, *2006 Report to Congress*, November 2006, p. 134, at [www.uscc.gov/annual\\_report/2006/annual\\_report\\_full\\_06.pdf](http://www.uscc.gov/annual_report/2006/annual_report_full_06.pdf) (April 29, 2007).

88. Blasko, "PLA Ground Force Modernization Underway."

89. See Chinese State Council, *China's National Defense in 2006*, chap. IV.

90. The Type-98 is protected by reactive armor and armed with a fully stabilized 125-mm 50-calibre smoothbore gun with auto-loader and is controlled by a laser rangefinder, wind sensor, ballistic computer, and thermal barrel sleeve. Dual-axis stabilization ensures precise targeting and firing on the move. The Type 98's 125-mm cannon can fire a Russian A-11 laser-guided anti-tank missile (ATGM). Both the commander and gunner have roof-mounted stabilized sights with daylight and infrared channels. The gun system reportedly outclasses the Abrams. See *Jane's Armour and Artillery Yearbook*.

91. See Fisher, "China's New Large Amphibious Assault Ship." Blasko suggests that only 400 have been deployed. Blasko, "PLA Ground Force Modernization Underway."

92. Fisher, "China's New Large Amphibious Assault Ship."

93. Zhou Ye, "Jiefangjun Zixunhua budui jinnian chengjun" (PLA cyberwarfare units deployed this year), *Zhongguo Shibao*, March 15, 2003.

94. For an overview of China's cyberwar strategies, see James C. Mulvenon, Ph.D., "Chinese Information Operations Strategies in a Taiwan Contingency," testimony before the U.S.–China Economic and Security Commission, September 15, 2005, at [www.uscc.gov/hearings/2005hearings/written\\_testimonies/05\\_09\\_15wrts/mulvenon\\_james.php](http://www.uscc.gov/hearings/2005hearings/written_testimonies/05_09_15wrts/mulvenon_james.php) (April 29, 2007).

puters in southern China and set off once again on their daily hunt for U.S. secrets.” Pentagon computer security sleuths had monitored their operations since 2003, when the unit began their attacks on U.S. government networks, part of an information operation that U.S. investigators have code-named Titan Rain. Using a simple but elegantly modified scanner program, Titan Rain hackers identified network vulnerabilities in scores of Pentagon systems, including critically important computers at the U.S. Army Information Systems Engineering Command at Fort Huachuca, Arizona; the Defense Information Systems Agency in Arlington, Virginia; the Naval Ocean Systems Center in San Diego, California; and the Army Space and Strategic Defense Command in Huntsville, Alabama.<sup>96</sup> The attacks were traced to a network in China’s Guangdong province, and according to one expert, the software and hacking techniques identified it as a professional military operation. The hackers “were in and out with no keystroke errors and left no fingerprints, and created a backdoor in less than 30 minutes. How can this be done by anyone other than a military organization?”<sup>97</sup>

Throughout December 2005, British Parliament offices in London were surreptitiously penetrated, also from computers using the Guangdong ISP network. Britain’s National Infrastructure Security Coordination Center investigators told reporters, “These were not normal hackers.... The degree of

sophistication was extremely high. They were very clever programmers.” The Chinese hackers searched files in offices of the British government dealing with human rights issues—“a very odd target,” noted one U.K. security official,<sup>98</sup> unless the hackers had been tasked by the Chinese government. The attacks on British parliamentary offices were well funded and well organized. The hackers used highly sophisticated software and had authorization to develop Web sites in China to which information was directed by e-mails. A British network security expert observed, “it costs money to be able to mount an operation of this complexity.”<sup>99</sup>

The U.K. attacks involved Trojan e-mails specifically targeted on unique victims. “One email was targeted at one company in aviation. It was a Microsoft Word document that had a Math/cad component. If you did not have math/cad on your computer it would not open,” said one expert. “The point was to find documents that had been written in that particular program and then send them back.”<sup>100</sup> PLA cyber penetrations of Japanese organizations used Microsoft zero-day vulnerabilities.<sup>101</sup>

The PLA cyberwarfare units almost certainly discovered these software and hardware vulnerabilities in key global operating systems and business programs when they gained full access to Microsoft source codes via the Chinese State Planning Commission (SPC). The SPC signed a memorandum with Microsoft in June 2002 in which Chinese gov-

95. See Dow Jones Newswires, “Taiwan Military—China Cyber War More Likely Than Invasion,” December 14, 2004; “Chinese Hacker May Be PLA,” *Chosun Ilbo*, July 15, 2004; “NK Hands Suspected in Cyberattacks,” *Korea Times*, July 15, 2004; and CNET News.com, “Flaw in Microsoft Word Used in Computer Attack,” *The New York Times*, May 20, 2006, at [www.nytimes.com/2006/05/20/technology/20zero.html](http://www.nytimes.com/2006/05/20/technology/20zero.html) (April 29, 2007).

96. Nathan Thornburgh, “Inside the Chinese Hack Attack; How a Ring of Hackers, Codenamed Titan Rain by Investigators, Probed U.S. Government Computers,” *Time*, August 25, 2005, at [www.time.com/time/nation/printout/0,8816,1098371,00.html](http://www.time.com/time/nation/printout/0,8816,1098371,00.html) (April 29, 2007).

97. Allan Paller, Director, SANS Institute Research, quoted in Bill Brenner, “Titan Rain Shows Need for Better Training,” *SearchSecurity.com*, December 13, 2005, at [http://searchsecurity.techtarget.com/originalContent/0,289142,sid14\\_gci1151715,00.html](http://searchsecurity.techtarget.com/originalContent/0,289142,sid14_gci1151715,00.html) (April 29, 2007). See also Bradley Graham, “Hackers Attack Via Chinese Web Sites; U.S. Agencies’ Networks Are Among Targets,” *The Washington Post*, August 25, 2005, p. A1, at [www.washingtonpost.com/wp-dyn/content/article/2005/08/24/AR2005082402318.html](http://www.washingtonpost.com/wp-dyn/content/article/2005/08/24/AR2005082402318.html) (April 29, 2007).

98. Peter Warren, “Smash and Grab, the Hi-Tech Way,” *The Guardian*, January 19, 2006, at <http://technology.guardian.co.uk/weekly/story/0,,1689093,00.html> (April 29, 2007).

99. *Ibid.*

100. *Ibid.*

101. CNET News.com, “Flaw in Microsoft Word Used in Computer Attack.”

ernment access to source codes was a condition of Microsoft's future investments in China.<sup>102</sup>

One British academic has pointed out:

Hacking in China carries the death penalty.... You also have to sign on with the police if you want to use the internet. And then there is the Great Firewall of China, which lets very little through—and lets [the Chinese government] know exactly what is happening.<sup>103</sup>

Consequently, there is little doubt that these cyberattacks were part of a deliberate Chinese government-sanctioned campaign.

While the Pentagon managed to shore up its cyber defenses after the 2004 attacks, other U.S. government agencies remained lackadaisical.<sup>104</sup> In 2006, at least four separate U.S. government computer networks were covertly attacked by Chinese cyber forces. Sometime in the spring of 2006, computers at the U.S. Department of State were shut down when it was discovered that Chinese hackers had installed software backdoors in the department's unclassified networks and were siphoning sensitive data from computers in offices dealing with China and North Korea.<sup>105</sup> Under congressional pressure, the State Department discontinued purchases of computers from Lenovo, a Chinese firm that acquired IBM's personal computer division in 2005.<sup>106</sup>

In July 2006, overseas hackers operating from Chinese Internet servers penetrated computers in the Bureau of Industry and Security (BIS), the office

in the U.S. Department of Commerce that manages export licensing of military-use products and information. "Through established security procedures, BIS discovered a targeted effort to gain access to BIS user accounts," according to a Commerce Department spokesman. Commerce officials admitted privately that Chinese hackers had implanted covert "rootkit" programs in the computers to mask their presence and to obtain privileged access to the computer system. When the damage was assessed, the agency's information security officers determined that they could not salvage the workstations and instead spent several million dollars building an entirely new system with clean hardware and clean software.<sup>107</sup>

In mid-November, computer security officials determined that Chinese hackers had penetrated the computer network at the Naval War College in Rhode Island. Retired Air Force Major General Richard Goetze, a professor at the Naval War College, said the Chinese took down the entire Naval War College computer network, an operation that prompted the U.S. Strategic Command to raise the security alert level for the Pentagon's 12,000 computer networks and 5 million computers. One report hinted that the Chinese cyberwarriors may have been targeting the college's Strategic Studies Group, which had begun developing concepts for waging cyberwarfare.<sup>108</sup>

At about the same time, in November–December 2006, the computers at the National Defense University in Washington, D.C., were also attacked.

102. Lian Junwei, "Weiruan chengnuo yu Zhonggong xiang yuanshima" (Microsoft commits to giving source codes to PRC), *Gongshang Shibao*, July 18, 2002.

103. Warren, "Smash and Grab, the Hi-Tech Way."

104. Dawn S. Onley and Patience Wait, "Red Storm Rising; DOD's Efforts to Stave Off Nation-State Cyberattacks Begin with China," *Government Computer News*, August 21, 2006, at [www.gcn.com/print/25\\_25/41716-1.html](http://www.gcn.com/print/25_25/41716-1.html) (April 29, 2007).

105. Ted Bridis, "State Dept. Suffers Computer Break-Ins," Associated Press, July 11, 2006.

106. Agence France-Presse, "U.S. pulls Lenovo PCs from State Department," *The Washington Times*, May 19, 2006, at [www.washingtontimes.com/world/20060518-104316-9737r.htm](http://www.washingtontimes.com/world/20060518-104316-9737r.htm) (April 29, 2007), and Associated Press, "U.S. to Restrict Use of Computers from Lenovo," *The New York Times*, May 20, 2006, p. C9, at [www.nytimes.com/2006/05/20/business/20computer.html](http://www.nytimes.com/2006/05/20/business/20computer.html) (April 29, 2007).

107. Alan Sipress, "Computer System Under Attack; Commerce Department Targeted; Hackers Traced to China," *The Washington Post*, October 6, 2006, p. A21, at [www.washingtonpost.com/wp-dyn/content/article/2006/10/05/AR2006100501781.html](http://www.washingtonpost.com/wp-dyn/content/article/2006/10/05/AR2006100501781.html) (April 29, 2007).

108. Bill Gertz, "Chinese Hackers Prompt Navy College Site Closure," *The Washington Times*, November 30, 2006, p. A11, at [www.washingtontimes.com/national/20061130-103049-5042r.htm](http://www.washingtontimes.com/national/20061130-103049-5042r.htm) (April 29, 2007).

The NDU attack was not publicized, but it was well-known among academic circles that NDU's e-mail accounts had been shut down for weeks while the penetrated systems were replaced.

No one should be comforted by the fact that some Chinese cyberattacks have been identified. While PLA cyberwarfare units devoutly wish to avoid detection, they also seek to give a false sense of security that all network penetrations can be detected. One expert told a conference of federal information managers early this year that "The Chinese are in half of your agencies' systems."<sup>109</sup> U.S. Defense Department sources say privately that the level of Chinese cyberattacks obliges them to avoid Chinese-origin hardware and software in all classified systems and as many unclassified systems as is fiscally possible. Moreover, the already serious threat of Chinese cyber penetration of U.S. defense networks will only be magnified as the Pentagon loses more and more of its domestic sources of trusted and classified microchips.

A report published in February 2005 warns that "a significant migration of critical microelectronics manufacturing from the United States to other foreign countries has [occurred] and will continue to occur." The strategic significance of this phenomenon cannot be overstated because this technology is the foundation of America's ability to maintain a technological advantage in the military, government, commercial, and industrial sectors. Indeed, microelectronics supplies for defense, national infrastructure, and intelligence applications are now in peril.<sup>110</sup>

This is a critical national security issue because America's defense-critical electronics demand trusted and classified microchips. The "confidence that classified or mission critical information contained in chip designs is not compromised, reliability is not degraded, or unintended design elements were not inserted in chips as a result of design or fabrication in conditions open to adversary agents" simply does not exist in commercial off-the-shelf (COTS) microchips manufactured overseas. As the February 2005 report explained, that "trust cannot be added to integrated circuits after fabrication; electrical testing and reverse engineering cannot be relied upon to detect undesired alterations in military integrated circuits."<sup>111</sup>

Increasingly, China is the source of COTS microchips, and Chinese foundries and design shops have had direct network access to foundries in other countries, particularly Taiwan—a fact that has become a source of alarm for Taiwan's intelligence agencies.<sup>112</sup> Chinese government pressure is now inducing Intel to propose construction of a \$2.5 billion semiconductor wafer fabrication plant in Dalian, China,<sup>113</sup> despite the fact "that manufacturing costs in China are only ten percent lower than in the United States while manufacturing costs in Taiwan are seven percent lower—almost all...accounted for by labor costs." These data, according to the Semiconductor Industry Association, "[do] not support the hypothesis that...the current migration to China is due to lower construction and operating costs.... [Chinese] Government policies are driving this."<sup>114</sup>

The U.S. government is very reticent about the vulnerabilities of its databases to Chinese penetra-

109. Mark A Kellner, "China a 'Latent Threat, Potential Enemy': Expert," *DefenseNews*, December 4, 2006, at [www.defensenews.com/story.php?F=2389588](http://www.defensenews.com/story.php?F=2389588) (April 29, 2007).

110. Defense Science Board Task Force, *High Performance Microchip Supply*, U.S. Department of Defense, Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, February 2005, p. 1, at [www.acq.osd.mil/dsb/reports/2005-02-HPMS\\_Report\\_Final.pdf](http://www.acq.osd.mil/dsb/reports/2005-02-HPMS_Report_Final.pdf) (January 4, 2007).

111. *Ibid.*, p. 17.

112. Jimmy Chuang, "Ex-TSMC Employee Suspected of Selling Secrets to Shanghai," *Taipei Times*, March 7, 2002, p. 1, at [www.taipeitimes.com/news/2002/03/07/story/0000126662](http://www.taipeitimes.com/news/2002/03/07/story/0000126662) (April 29, 2007). See also Stephanie Low, "Government Drafts Law to Fight High-Tech Espionage," *Taipei Times*, March 31, 2002, p. 1, at [www.taipeitimes.com/news/2002/03/31/story/0000129898](http://www.taipeitimes.com/news/2002/03/31/story/0000129898) (April 29, 2007), and Dan Nystedt, "Top Secret Report Sets Off Alarms in the Tech Sector," *Taipei Times*, July 4, 2001, p. 17, at [www.taipeitimes.com/News/biz/archives/2001/07/04/92739](http://www.taipeitimes.com/News/biz/archives/2001/07/04/92739) (April 29, 2007).

113. Jason Dean and Don Clark, "China Clears Intel Chip Plant, Marking a Potential Milestone," *The Wall Street Journal*, March 14, 2007, p. A4.

114. Defense Science Board Task Force, *High Performance Microchip Supply*, p. 30 (emphasis added).



tion, but an example of how widespread Chinese cyberattacks have become surfaced in spring 2006, when a certain foreign “coast guard agency” discovered a covert program imbedded in its network that systematically searched for shipping schedules and then forwarded them to an e-mail address in China.<sup>115</sup> There is every likelihood that Chinese PLA cyberwarfare units have already penetrated the Pentagon’s unclassified NIPRNET (Unclassified but Sensitive Internet Protocol Router Network) and have designed software to disable it in time of conflict or confrontation.<sup>116</sup> PLA cyberwarfare units’ access to source codes for America’s ubiquitous office software means that they have a skeleton key to any networked government, military, business, or private computer in America.

### Geostrategic Implications of China’s Military Expansion

One might accept that China is simply a great nation that requires a great navy, but what does Beijing’s leadership intend for such a large and increasingly well-equipped ground force? The obvious answer lies in the 2006 Defense White Paper, which declares that the PLA’s mission is “defending against violation of China’s territorial sea and air space, and borders; opposing and containing the separatist forces for ‘Taiwan independence’ and their activities.”<sup>117</sup>

Aside from assembling an invasion force to “liberate” Taiwan, China has other borders and territo-

rial seas to defend. China’s landmass is vast, and its population is the world’s largest. China shares land borders with 14 nations, but none of them is in a position to challenge China on land. Even Russia, with a population of 6 million east of the Ural Mountains, is no match for the 120 million Chinese who live in Manchuria alone. Indeed, many Russians believe that, economically at least, China has already taken over the Russian Far East.<sup>118</sup>

China’s still unrequited claims on Asian mainland irredenta include the recent assertion that “the whole of what [India] calls the state of Arunachal Pradesh is Chinese territory and Tawang (district) is only one place in it and we are claiming all of that.”<sup>119</sup> New Delhi downplayed the remarks publicly, but Indian officials are concerned that Beijing will continue to press its claims on the Tawang district, where the sixth Dalai Lama was born, as a way to tighten its hold on Tibet. Beijing has similar territorial concerns with Bhutan. Moreover, Kazakhstan and Mongolia would surely pay more heed to China’s desires if they were backed up by a modern PLA, China’s army already seems strong enough to intercede in the event of a North Korean collapse to prevent unification of the peninsula,<sup>120</sup> and a significant Chinese amphibious infantry force would have a similar effect on the nations of Southeast Asia and the Pacific.

The geopolitical impact in Eurasia of an overwhelmingly massive Chinese army would be one of intense intimidation throughout the region, and Beijing no doubt wants to keep its neighbors calm,

115. John Markoff, “Attack of the Zombie Computers Is Growing Threat, Experts Say,” *The New York Times*, January 7, 2007, at [www.nytimes.com/2007/01/07/technology/07net.html](http://www.nytimes.com/2007/01/07/technology/07net.html) (April 29, 2007).

116. Mulvenon, “Chinese Information Operations Strategies in a Taiwan Contingency.”

117. Chinese State Council, *China’s National Defense in 2006*, chap. 2.

118. For a colorful discussion of China’s impact on the Russian Far East, see Burt Herman, “Chinese Presence Grows in Russian Far East,” Associated Press, August 24, 2005. See also “Zhongguo yimin daju zhuanru, Eguo fangdu; Mosike nian sunshi 71.9 yi meiyuan; jiang tuichu xilie zhendui cuoshi, shi jushi zhengchanghua” (Russia seeks to stem flood of Chinese immigrants, Moscow loses US\$7.19 billion each year, will take measures to address this problem and normalize this trend), *Shijie Ribao*, March 17, 2006, at [www.worldjournal.com/wj-ch-news.php?nt\\_seq\\_id=1327123](http://www.worldjournal.com/wj-ch-news.php?nt_seq_id=1327123) (April 29, 2007).

119. “PRC Ambassador to India Claims ‘Whole of Arunachal Pradesh Is Chinese Territory,’” CNN–IBN News (India), November 13, 2006, at [www.ibnlive.com/news/arunachal-is-chinese-territory-envoy-minces-no-words/26108-3.html](http://www.ibnlive.com/news/arunachal-is-chinese-territory-envoy-minces-no-words/26108-3.html) (April 29, 2007).

120. For an expanded look at this issue, see John J. Tkacik, Jr., “How the PLA Sees North Korea,” in Andrew Scobell and Larry M. Wortzel, eds., *Shaping China’s Security Environment: The Role of the People’s Liberation Army* (Carlisle, Pa.: U.S. Army War College, Strategic Studies Institute, October 2006), pp. 139–172, at [www.strategicstudiesinstitute.army.mil/pdf/files/pub709.pdf](http://www.strategicstudiesinstitute.army.mil/pdf/files/pub709.pdf) (April 29, 2007).

at least until it can develop a modernized navy and air force that would discourage U.S. intervention.

Thus, while China's strategic, space, and naval modernization is doubtless targeted at the United States and Japan, and as its expanding fighter fleet anticipates a Taiwan Strait contingency, China's ground force modernization looks beyond possibly invading and occupying Taiwan to establishing Chinese military predominance on the Eurasian landmass.

### What the Administration and Congress Should Do

The perception in Asia is that the top levels of the Bush Administration have no strategic vision for Asia in general and are not concerned about China's spreading influence in particular and that whatever concern exists at working levels of the national security bureaucracy is eclipsed by Middle East concerns.<sup>121</sup>

This perception should inform the Administration's and Congress's management of the gathering security challenge posed by China's emergence as a rival superpower in the 21st century. Any effective American response will require a new partnership with democratic Asia and an attitude change in Washington.

Three strategic goals are essential elements of an effective U.S. policy toward China:

- **The United States must have a vision for the Asia-Pacific Region** that is based on the following principles: (1) The U.S. definitely has a position on differences between despotism and freedom; (2) the U.S. has a stake in the survival and success of Asian democracy; and (3) the U.S. will ensure that Asia's democracies are not coerced into acceding to Chinese demands or subservient relationships with China.

- **As the preeminent global maritime power, the United States cannot permit the rise of a new hostile naval power on mainland Asia to compromise America's "Island Asia" lifelines to the Pacific.**

- **As a matter of national security, the United States must maintain its military technological supremacy**, not just in traditional battle spaces, but also in outer space and cyberspace.

With these goals in mind, an effective set of policies that are structured to manage China's expanding strategic footprint in Asia must include the following elements:

- **Coherence and consistency in the interagency and intra-agency implementation of policies.** Each Cabinet department and agency should have an office devoted to China issues, initiatives, and coordination. In national security agencies, each bureau should have a China officer who is responsible for monitoring China-related issues on a full-time basis and briefing the bureau's principals and the East Asia/Pacific Bureau on them.
- **A heightened policy commitment to protecting defense-critical technologies, equipment, software, and intellectual property.**
- **A revitalized presence in the Asia-Pacific and South Asia regions.** The United States must not only be committed to maintaining stability and balance in the region, but must also be seen as having such a commitment. This requires that top American officials engage key Asian groupings and fora, including the ASEAN heads of state, ASEAN ministerials, the ASEAN Regional Forum, and the Asia-Pacific Economic Cooperation (APEC) forum. On an ongoing basis, the U.S. should seek to preserve and strengthen U.S. security alliances in East Asia by expanding bi-

121. For an excellent summary of the problem, see Wendell Minnick, "China Rising: East Asia Braces as American Influence Fades," *DefenseNews*, March 19, 2007, pp. 11–12, at [www.defensenews.com/story.php?F=2623660](http://www.defensenews.com/story.php?F=2623660) (April 29, 2007). Singapore Prime Minister Lee Hsien Loong reportedly believes that, "distracted by problems elsewhere, the U.S. isn't paying enough attention to Southeast Asia, losing its regional influence to a rising China and potentially weakening antiterrorism cooperation." Yaroslav Trofimov and Paul Beckett, "Singapore Prime Minister Urges U.S. to Bolster Its Ties in Asia," *The Wall Street Journal*, April 18, 2007, p. A9, at <http://online.wsj.com/article/SB117679618020172427.html> (May 7, 2007; subscription required).

lateral and multilateral strategic consultations and joint military exercises with treaty allies and other U.S. partners.

- **A renewed commitment to Asian allies and friends.** Sun Tzu advised that a most effective way of defeating an enemy is to “divide him from his allies,”<sup>122</sup> and this is assuredly a top Chinese strategic goal in Asia. Washington should therefore be wary of Beijing’s stratagems to drive wedges between the U.S. and its partners. The U.S. should resolutely support Japan against China’s territorial pretensions in the East China Sea and vigorously protest Beijing’s missile, air, and naval buildup against Taipei. China’s successful U.N. campaign for a PAROS regime is driving a wedge between the U.S. and allies on space policy. The U.S. needs to explain to its friends and allies that it views space as a matter of the highest national security priority.
- **Reengagement with the Atlantic Community—the European Union and NATO allies—in a robust consultation and dialogue on shared strategic interests and basic values of human dignity and freedom.** Most NATO allies recognize that the proposed EU arms sales to China would significantly harm American and Japanese security interests in Asia, but only the prospect of terminating or severely curtailing defense industrial cooperation persuaded others to maintain the EU arms embargo on China. European leaders were genuinely surprised at Washington’s reaction in 2004–2005 to anticipated EU–China weapons systems cooperation because the United States had simply not engaged Europe in a dialogue on China and Asia.
- **Encouragement of India as a participant in Eurasian geopolitical dynamics.** The U.S. should encourage India’s continued involvement in the East Asian Summit, India’s security consultations with Japan and Australia, and a deepening engagement of New Delhi in a strategic dialogue.

Managing the emerging Chinese military superpower will require:

- **A U.S. naval and air presence sufficient to maintain strategic supremacy in Asia.** For example, the U.S. needs to expand its submarine fleet by building at least two boats per year, starting now. Given the high costs of nuclear submarines, the U.S. Navy may need to consider conventional submarine platforms for short missions from forward bases, especially for anti-submarine warfare operations.
- **Expansion of forward bases and facilities in the Pacific,** particularly Guam, and the allotment of resources needed for secure and uncompromised military construction.
- **Strengthened Japanese anti-submarine and anti-mine warfare capabilities** in addition to its ballistic missile defense efforts. Japan will be the most reliable ally in the Western Pacific and must have the confidence to stand with the United States as Chinese power grows. The geopolitical situation may also require making a next-generation fighter, Aegis ships, ballistic missile defense, and other equipment available to Japan and Australia as the United States finds its own resources strained in the region.
- **Expanded subsurface and ballistic missile-related sensors throughout the Western Pacific and littoral East Asia.**

## Conclusion

The Asian perception that the United States is a Pacific power in decline may prove prescient, even though America’s leaders may not see themselves presiding over America’s retreat. However, China is clearly emerging as the preeminent power in the Asia–Pacific region.

America could engage and strengthen the current robust trans-Pacific alignment, knitting the democracies of the Americas with their counterparts along the Western Pacific Rim, or a disengaged America could allow a Sino-centric axis to crystallize as ASEAN, Taiwan, Korea, and eventually

122. Or “disrupt his alliances” (*fa jiao*). Sunzi Bingfa III. 5. See Sun Tzu, *The Art of War*, trans. Samuel B. Griffith (London: Oxford University Press, 1963), p. 78.

Japan, Australia, and South and Central Asia bandwagon with China. The latter would make Leninist-mercantilist China the rule-maker in Asia, not just for transnational trade and financial structures, but also for a new Asian security architecture and a new ideology of authoritarian state-mercantilism that defends repressive “development models based on national conditions.”

Over the next few years, the choices made in Washington, both in the White House and on Cap-

itol Hill, will be a bellwether to the capitals of democratic Asia for their own geopolitical decisions. How Washington manages the emerging Chinese superpower will determine not only the direction of Asian democracy, but the prospects for global freedom in the 21st century.

—John J. Tkacik, Jr., is Senior Research Fellow in China, Taiwan, and Mongolia Policy in the Asian Studies Center at The Heritage Foundation.