

CHINA'S MILITARY POWER: AN ASSESSMENT FROM OPEN SOURCES

Testimony of Richard D. Fisher, Jr.,*
International Assessment and Strategy Center,
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Mr. Chairman and distinguished members of the Armed Services Committee, the following is an assessment from open sources of the direction and strategic implications of the accelerating military modernization of the People's Liberation Army (PLA) of the People's Republic of China (PRC). This task is significantly aided by the annual Department of Defense report on PLA modernization that has been mandated by the Congress, starting with this Committee, since 1998. But as these Pentagon reports have repeatedly stressed, a full assessment of Chinese military modernization is significantly impeded by the strict secrecy the PLA attaches to almost all matters of military capability, technology and planning. Despite a decade of active diplomacy by various U.S. military and political leaders to encourage greater Chinese military transparency, there has been only minimal change; China's abhorrence of such transparency is rooted in its military culture from the time of Sun Tzu.

While an aggressive pursuit of available open sources can yield a limited assessment of China's recent military modernization ambitions and achievements, the nation requires an informed public debate regarding the growth of China's military capabilities so American leaders and citizens can make decisions critical to national defense. For this reason it is necessary for the Congress to consider encouraging the Department of Defense to significantly expand its annual report on China's military power to include increased descriptions, illustrations and projections, and to make this report available in multiple languages.

2005: The Pentagon Embraces Its PLA Report

In 2001 President George W. Bush began his first term with a skeptical view of China military build-up and Secretary of Defense Donald Rumsfeld's first Quadrennial Review recommended changes in U.S. force deployments in Asia to upgrade U.S. deterrent capabilities, aimed principally at China and North Korea. The War on Terror that became deadly serious after that September 11 forced the Administration to radically alter its military priorities. However, it is clear from his recent June 2 statements in Singapore, and then the greater attention he devoted to the July 19 issue of the *Annual*

* Richard D. Fisher Jr. is a Vice President of the International Assessment and Strategy Center, a Washington, D.C.-based think tank devoted to a "Net Assessment" approach to strategic analysis. Mr. Fisher has previously worked for the Center for Security Policy, the Jamestown Foundation, the House Republican Policy Committee and The Heritage Foundation. For over a decade he has written extensively on China's ongoing military modernization, conducting field research in China, Russia, and other countries. His recent reports can be accessed at www.strategycenter.net

Report to Congress, The Military Power of the People's Republic of China 2005, that Secretary Rumsfeld has not forgotten that China's challenge to U.S. security interests is looming ever larger. While the War on Terror deserves the nation's full attention, Secretary Rumsfeld has also served notice the United States must also respond to the growing military challenge from China. While noting additional dangers to Taiwan, the 2005 DoD PLA Report also identifies a profound contradiction in China's behavior that could in the future threaten the security interests of the United States, Japan and its friends and allies:

“China does not now face a direct threat from another nation. Yet, it continues to invest heavily in its military, particularly in programs designed to improve power projection. The pace and scope of China's military build-up are, already, such as to put regional military balances at risk...In the future, as China's military power grows, China's leaders may be tempted to resort to force or coercion more quickly to press diplomatic advantage, advance security interests, or resolve disputes.”¹

A suggested answer to this contradiction lies in the nature of China's still Communist regime. Despite its quick rise to global economic powerhouse status, the regime in Beijing lacks political legitimacy and is thus unstable. It lacks legitimacy because it refuses to allow political freedoms commensurate with the Chinese people's demonstrated competence to use expanded economic freedom. In a traditional communist/authoritarian manner it suppresses all potential opposition and requires ever greater military political support and military power. This dynamic then motivates China's external behavior, be it nuclear or missile proliferation to other anti-U.S. “rogue” states, opposing democratic reform in Hong Kong, building a military that threatens Taiwan and its neighbors, or its ambitions to displace U.S. leadership in Asia. This challenge will likely grow until the day that China's government pursues an agenda informed by democratic values.

PLA MODERNIZATION AND PRC STRATEGIC DIRECTIONS

In the meantime, the government of China is in the midst of perhaps the largest military build-up the world has witnessed since the end of the Cold War. After fifteen years of sustained defense spending growth and effort China is transforming its armed forces. As recently as the early 1990s the PLA was mired in defensive doctrines and equipped largely with modified, but still 1950s vintage Soviet technology. Now, China is on the cusp of fielding a modern force capable of joint service offensive operations that can exploit multiple new information and precision-strike technologies. It is assessed that this force is currently being tailored to give the Chinese leadership increasing military capabilities and thus political-military options in three major political-military directions.

1. Strategic Coercion and Strategic Denial

A key objective of China's military modernization is to expand its capabilities for strategic coercion and strategic denial—especially against the United States. One need

only recall General Zhu Chengdu's response to Asian Wall Street Journal Editor Danny Gitting's question about "possible Chinese tactics in the event of a conventional war over Taiwan." General Zhu stated: "If the Americans interfere into the conflict, if the Americans draw their missiles and position-guided ammunition into the target zone on China's territory, I think we will have to respond with nuclear weapons," Gittings then said Zhu went on to say this could lead to the destruction of "hundreds of, or two hundreds" of American cities.² There is no full official statement of China's nuclear doctrine, so Zhu's statement can be taken as a strong indication it contains elements that stress defensive "nuclear deterrence," but may also envision the use of nuclear threats for blackmail and coercion. In August 1996 a Chinese Foreign Ministry arms control official stated that as Chinese territory, China's nuclear weapons "no first use" pledge "does not apply" to Taiwan. A more explicit suggestion that U.S. intervention could lead to a nuclear strike against Los Angeles was conveyed in late 1995 by current Deputy Director of the PLA General Staff Department General Xiong Guangkai. Despite the Chinese Foreign Ministry's July 21 affirmation of its "no first use" policy, there is little doubt that China's military leadership wants the U.S. to believe that it will use nuclear weapons against the U.S. should it rise to defend democratic Taiwan from Chinese attack. To enhance its nuclear coercive potential the PLA is now deploying a new fixed and a new mobile nuclear ICBM, will soon deploy a longer-range mobile ICBM, and about the same time, will deploy a new long-range SLBM. These new nuclear missiles—three of which may contain multiple warheads—will be active before 2010.

Just as important, the PLA is assembling new capabilities for space, air and naval warfare designed to deny access to U.S. forces to the regions around Taiwan. Ground-based laser and new direct-ascent anti-satellite weapons are intended to take out key U.S. space assets. At the same time, Russian-made Su-30MKK2 and Chinese-made Xian JH-7A fighter bombers, coordinated by a variety of land and air-borne electronic sensors, in tandem with new nuclear and conventional attack submarines, are intended to launch coordinated long-range missile strikes against U.S. naval forces. The PLA may also intend to use new maneuverable ballistic missiles plus new long-range cruise missiles to strike both naval and ground-based targets. Submarine-launched non-nuclear LACMs as well as PLA Special Forces could be used against U.S. bases as distant as Hawaii, Alaska and the U.S. West Coast.

2. Forcing Unification With Taiwan

While the people of Taiwan wish to live in peace, as well as prosper with China, it is clear that the Communist regime in Beijing cannot envision a peaceful future with a democratic government in Taipei unless it agrees to surrender its freedom. As that is increasingly unlikely, the Chinese government is determined to assemble the military means to either intimidate Taiwan into "unification" or eventually to conquer Taiwan. With the latest U.S. estimate that PLA SRBMs are growing up to 120 per year, and a recent Taiwan estimate that LACMs may increase by 200 a year starting in 2006, it is possible that by 2010 the PLA could amass up to 2,300 missiles against Taiwan. According to published estimates, the PLA could acquire up to 270 Russian Su-30 and Chinese Xian JH-7A all-weather fighter-bombers capable of delivering precision-guided

weapons (PGMs). These will soon be supplemented by new Chengdu J-10 multi-role fighters and a new version of the co-produced Sukhoi Su-27/Shenyang J-11 with Chinese components and weapons. Before 2010, over 700 Russian S-300 surface-to-air missiles (SAMs) could effectively deny the Taiwan Strait to Taiwan's Air Force. It can be estimated that by 2010 the PLA Navy could have 50 to 60 nuclear and new conventional attack submarines, which in cooperation with three new classes of air defense destroyers, will be better able to impose a naval blockade on Taiwan. To present a credible threat of invasion, there is also concern that the PLA could be assembling a second Airborne Army, the first of which has just started receiving a new family of air-droppable armor vehicles. LST-size amphibious assault ships have recently been doubled in number, while there reports of PLA interest in buying or co-producing the large Russian Zubr assault hovercraft, and both Marine and Army Amphibious units have been upgraded with new tanks and armored personnel carriers (APCs).

3. Preparing for Regional Military Ascendancy and Extra-Regional Influence

While China has encouraged its diplomats and supporters to talk of its desire for a "peaceful rise" in world affairs, there is also much to suggest that China harbors the intention to displace American power in Asia as it may seek to exercise some elements of global strategic influence to defend its interests. Recent Chinese Foreign Ministry defector Chen Yonglin for the first time disclosed that Chinese leaders internally speak of forming a "Greater Neighboring Region" that would displace U.S. leadership in a manner reminiscent of Japan's "Greater East-Asia Co-Prosperty Sphere." China already uses its economic clout to pressure South Korea and Australia from supporting U.S. policies protecting Taiwan, and China also opposes Japanese and Australian missile defense cooperation with Washington. It is also necessary to consider that the Chinese leadership's intense priority on securing access to future foreign energy and mineral resources could lead to PLA interest in the Persian Gulf or South America could propel a far more ambitious navy building program.

Much of the force that the PLA is building ostensibly for Taiwan operations could be quickly moved to for use in many other directions. The PLA's force of SRBMs and new LACMs, along with its all-weather strike air forces, and submarine forces, can easily be moved to support potential operations on the Korean Peninsula, against Japan or for use in the South China Sea. The PLA's upgraded Airborne Army, along with its increasing number of mechanized Army units, could be rapidly deployed to support potential operations in Central Asia. Soon, new Chinese land-attack cruise missiles (LACMs) on new Type 093 nuclear attack submarines (SSNs) could be used to destroy distant political factions that threaten Chinese resource interests. And while China is not yet believed to building an aircraft carrier, for many years the PLA has been developing aircraft carrier technologies. In early May the PLA moved the former Ukrainian carrier Varyag, in Dalian harbor since early 2002, into a drydock, suggesting it might soon serve a military role.

MAJOR TRENDS IN PLA MODERNIZATION

The following is a brief assessment of some key trends in PLA modernization aided by the annual DoD PLA Reports, but supplemented by open source research in the defense press, interview data from several countries, as well as useful data increasingly available from Internet sources. This assessment focuses on trends in future capabilities that could affect U.S. defense interests, but it not a comprehensive review. For the previous 18 months this analyst notes five major new developments in PLA modernization:

1. The imminent deployment of a new “second generation” Land Attack Cruise missile (LACM) that will eventually be fielded in land, air, ship and sub-launched versions.
2. Launch of the first second generation Type 094 nuclear powered ballistic missile submarine (SSBN), the first successful test of the new JL-2 submarine-launched ballistic missile (SLBM), and commencement of the construction of the third Type 093 nuclear attack submarine (SSN).
3. Introduction of new families of light armor combat vehicles for Airborne, Amphibious and Army units.
4. Imminent transition from development to production for the Chengdu J-10 4th generation fighter and its associated PL-12 active-guided air-to-air missile, and production commencement for the Xian JH-7A strike fighter for the PLA Air Force and Navy.
5. A major combined-arms military exercise with Russia scheduled for September—the first time the PLA will be able to exercise its new doctrines and equipment with a foreign military-technical peer.

The following is a slightly more expansive list of some major directions in PLA modernization.

“Informationalization” And PLA Reform

The central PLA priority since the early 1990s has been to intently develop the doctrines and pursue organizational reforms needed to fight offensive high-intensity wars of short duration in which the strengths of all its armed forces are combined in the most optimal manner for the specific mission. Central to this objective has been the leveraging of information technologies, which the PLA terms “informationalization.” There have been successive reductions in the size of the PLA, now at 2.3 million, in part to be able to fund modernization and to shift resources to build up the PLA Second Artillery missile forces, the PLA Air Force and the PLA Navy. The elevation of these services was formalized in late 2004 when their commanders were for the first time elevated to the Central Military Commission, the PLA’s most important leadership organ. The PLA Army remains the largest service, and thus still dominates the PLA leadership, but now even the Army realizes that modern war requires greater future leadership be given to these high-technology services.

Though a largely undefined term, “informationalization” clearly relates to the PLA’s ability to adopt information technologies to command, intelligence, training and

weapon systems. This would include broad investment in new automatic command systems linked by fiber-optic Internet, satellite and new high-frequency digital radio systems, which allow for more efficient joint-service planning and command, while also enabling a reduction in layers of command. The PLA can also better contest the information battle space with its new space-based, airborne, naval and ground based surveillance and intelligence gathering systems, and its new anti-satellite, anti-radar, electronic warfare and information warfare systems. Training and education is also becoming more “informationalized” as the PLA rapidly increased the use of advanced computer-driven simulators in all services and encourages greater on-line training and education for officers and non-commissioned officers. And there is increasing “information content” for new PLA weapons as its moves to link new space, airborne and ELINT “sensors” to missile, air, naval and ground-based “shooters” to enable all its services to better use new precision-strike weapons.

High Technology And “Assassin’s Mace” Weapons

The PLA’s historic penchant for secrecy and surprise, when combined with known programs to develop highly advanced technologies that will lead to new and advanced weapons, leads to the conclusion that the PLA is seeking field new weapon systems that could shock an adversary and accelerate their defeat. In the mid-1990s former leader Jiang Zemin re-popularized an ancient Chinese term for such weapons, “Shashaojian,” translated most frequently as “Assassin’s Mace,” or “silver bullet” weapons.³

One potential Shashoujian is identified by the DoD 2005 PLA Report: a maneuvering ballistic missile designed to target U.S. naval forces.⁴ In 1996 a Chinese technician revealed that a “terminal guidance system” that would confer very high accuracy was being developed for the DF-21.⁵ Such a system could employ a radar similar to the defunct U.S. Pershing-2 MRBM or could employ off-board sensors with rapid data-links to the missile tied to satellite-navigation systems. Nevertheless, should such missiles be realized they will pose a considerable threat as the U.S. Navy is not yet ready to deploy adequate missile defenses. Were such missiles to be armed with non-nuclear radio frequency warheads, as at least one U.S. source indicates the PLA has developed,⁶ they would not need to hit U.S. warships to do considerable damage.

Military Space

A major element of the PLA’s drive to exploit information technologies and to be able to fight “information warfare” has been an expensive effort to build military capabilities in outer space. The PLA will soon have new surveillance, communication and navigation satellites to serve its warfighters and new capabilities to combat enemy space assets. From 2006 to 2008 the PLA plans to launch a constellation of eight new surveillance satellites: four new HJ-1A and HJ-1B electro-optical satellites and four new HJ-1C radar satellites which can penetrate night and weather. These will be based on Russian NPO Machinostroyeniya electro-optical and radar satellites.⁷ One Chinese official stated the electro-optical satellites would have a 1/10 meter resolution.⁸ While

this will be a small surveillance constellation compared to that of the U.S., it will be the largest in Asia and will be sufficient to give PLA warfighters a twice-daily revisit by both types of satellites. This plus an expected larger number of UAV-based reconnaissance systems may be sufficient to give the PLA detailed imagery of an evolving Taiwan campaign.

The PLA currently has two Zhongzhing-22 communication satellites in orbit, and is known to use many Chinese “civilian” communication satellites. The PLA now has three “Beidou” navigation satellites in orbit but this system is limited by its reliance on ground stations for navigation signal broadcast. But to guarantee access to navsat signals like those broadcast by the U.S. Global Positioning Satellite (GPS) system, China is developing its own system of modern navigation satellites, and is now a full partner in Europe’s “Galileo” navsat system, which plans to have 30 satellites in orbit by 2008. China will also use its experience with Galileo to build its own navsat network.

Before the end of this decade the U.S. should expect that the PLA will be able to attack U.S. military space assets which would be essential to the success of any potential U.S. military response to a Chinese attack on Taiwan. Starting with its first Congressionally-mandated report in 1998 on PLA modernization the Pentagon has noted PLA efforts to use ground-based lasers to dazzle low Earth orbit satellites. The PLA may also soon have a direct-ascent anti-satellite weapon based on new micro and nano satellites—developed from an initial 1998 technology transfer from Britain’s Surrey Satellite Technologies Ltd.—combined with the new “KT” family of mobile solid-fueled space launch vehicles. And more ominously, the PLA may envision manned military space platforms inasmuch as its first manned space flight, the Shenzhou-5 of October 2003, was primarily used for military surveillance. It cannot be dismissed that future Chinese manned space stations planned for the next decade could perform defensive and offensive military-space missions.

New ICBMs and SLBMs To Defeat US Missile Defenses

While China is described as pursuing a modest buildup of its nuclear missile forces by Department of Defense, it is also building up this force in ways that will enable it to defeat current and future U.S. National Missile Defenses. By doing so the PLA nuclear missile force advances its two main missions: to deter nuclear attack; and to deter U.S. military support for Taiwan. While it must be noted that exact numbers for PLA missiles are not public information, in 2000 China was usually credited with “around 20” older 13,000km range DF-5 Mod 1 ICBMs. Today China is either deploying or close to deploying at least three new nuclear-armed land-based intercontinental-range ballistic missiles (ICBMs) and one new submarine-launched ballistic missile (SLBM). In 2004 the Pentagon stated that ICBM numbers could reach 30 by 2005 and 60 by 2010. But this number must soon include new SLBMs, because in July 2004 the PLA launched its first Type 094 nuclear powered ballistic missile submarine (SSBN), which carry 16 SLBMs each.⁹ If one assumes that the PLA will produce four Type 094 SSBNs by 2010, with 64 SLBMs, then by that year the PLA could have up to 124 nuclear armed missiles capable of attacking the United States.

In 1999 the Cox Report for the first time revealed that the PLA was replacing its 13,000km range liquid fueled DF-5 Mod 1 ICBMs with a longer range DF-5 Mod 2.¹⁰ Then in 2002 the Pentagon noted that the DF-5 Mod 2s would replace their predecessor by “mid decade,” indicating that around 20 should be deployed by this year.¹¹ But just as important, the Pentagon also suggested the DF-5 Mod 2 could be armed with multiple warheads.¹² This large ICBM could easily carry five or more new-type smaller nuclear warheads developed with the benefit of technology stolen from the United States, though Russian ICBMs of the same size carry 10 warheads.¹³

In 2003 the International Institute for Strategic Studies reported in its *Military Balance* that the PLA’s first DF-31 ICBM brigade of 8 missiles was operational, while this year the Pentagon says DF-31 deployment may now be underway. This estimated 8,000km range missile is the PLA’s first solid-fueled and mobile ICBM. The DF-31 is believed to carry only one warhead, but may employ penetration aids like decoys to complicate interception. It will soon be joined by the 12,000km range DF-31A, also a mobile ICBM. The Pentagon notes this missile will be deployed “2007 to 2009.” Inasmuch as the KT-2A mobile space-launch vehicle, likely based on the DF-31A, can carry up to three payloads,¹⁴ it is possible the DF-31A will be able to carry multiple warheads—perhaps up to three.

Finally, with the launching of the Type 094 SSBN the PLA will soon be able to deploy its new JL-2 SLBM, and thus realize its first reliable nuclear “second strike” capability. In 1999 the Cox Commission noted the JL-2 would have a range of 7,500 miles (12,000km) while the first reported test in June indicated a potential 5,000 mile (8000km) range.¹⁵ At this range the Type 094 might not have to leave operating areas near their main base of Huludao in the northern end of the Bohai Sea. However, the shallowness of this sea may have led the PLA to build a second nuclear submarine base on Hainan Island in the South China Sea,¹⁶ which affords quicker access to more secure deep sea operating areas. From Hainan the JL-2 could more easily cover India. But the best access to immediate deep sea operating areas for the Type 094 would be from the east coast of Taiwan.¹⁷ Should the multi-stage JL-2 be of unitary diameter, then there is a good chance it will eventually carry multiple warheads, perhaps as many as three.

China is also working on new technologies to ensure its new missiles can defeat U.S. missile defenses. One such technology would be multiple warheads to saturate missile defenses. The Cox Report noted that if China were to aggressively develop multiple warheads for its missiles it could have 1,000 by 2015.¹⁸ Conservative estimates previously mentioned could potentially add up to 2010 warhead count of 372: 20 DF-5 Mod 2 x 5 warheads + 20 DF-31 x 1 warhead + 20 DF-31A x 3 warheads + 64 JL-2 x 3 warheads. It is also very possible that these new missiles will use “penetration aids” to include maneuvering warheads, decoys, balloons and chaff.

Strategic Land Attack Cruise Missiles

Since the 1970s the PLA has placed a high priority on developing an indigenous strategic land attack cruise missile (LACM). This effort has been aided by the PLA's success in obtaining advanced cruise missile technology from Russia, Israel, the Ukraine and the United States.¹⁹ In early July an Internet-source photo appeared of a new Chinese cruise missile with unmistakable LACM characteristics. This would tend to support revelation from Taiwan earlier this year that by 2006 the PLA will deploy 200 new land-based LACMs. With their very high accuracy such cruise missiles allow strategic targets to be destroyed with non-nuclear warheads. At first these will be launched by Second Artillery units, but soon after, they may also be used by PLA Air Force H-6 bombers and by the PLA Navy's new Type 093 nuclear attack submarines. When used by the latter, the PLA will have its first platform capable of limited but politically useful non-nuclear power projection on a global scale.

Large Numbers Of SRBMs and MRBMs

Back in early 1999 leaked U.S. intelligence figures indicated that by 2005 the PLA might have 650 short-range ballistic missiles (SRBMs) pointed at Taiwan—what seemed to be an outrageous figure at that time. But in its 2005 PLA Report the Pentagon now says that estimates range from 650 to 730, with a growth potential of 75 to 120 a year. Taiwan military estimates note PLA SRBMs now exceed 700 and could reach 800 by 2006.²⁰ Should this rate of production be sustained, it is possible to consider 1,300 SRBMs being aimed at Taiwan by 2010. As a force-in-being Beijing hopes that it's accumulating missile force will serve as a main military-political tool to intimidate Taiwanese political leaders. But when China strikes, these missiles will be used in large wave attacks coordinated with cruise missile, electronic warfare, air and Special Forces strikes. Some 600 to 1,000km range DF-15s may have nuclear warheads. But it can be expected that DF-15 and DF-11 SRBMs may carry new radio-frequency/electromagnetic pulse (EMP) warheads, which if used in sufficient numbers, could essentially "fry" electronic communications and electric power networks. These warheads would enable "non-lethal" attacks against Taiwan, Okinawa or even U.S. naval forces. Just as important is the PLA's growing number of medium-range ballistic missiles which will be targeted against Japan, Okinawa and Guam. These include about 20 to 30 older, liquid fueled 2,800km range DF-3As, and about 50 to 100 newer solid fueled DF-21A missiles.²¹

Modern Offensive Combat Air Forces

After fifteen years of sustained investment the PLA is on the verge of being able to deploy integrated air forces of multi-role fighters with modern support elements like airborne radar, electronic warfare and aerial refueling platforms that are able to undertake autonomous or joint-force package offensive missions. These will be able to undertake all-weather air superiority missions and will shoulder the majority of the PLA's long-range precision-strike missions. Over the next few years this force could reach a point of qualitative and quantitative air superiority on the Taiwan Strait and pose a real threat to one or more U.S. carrier battle groups or U.S. Air Forces on Okinawa. By 2010 the PLA could have 200 or more all-weather Russian and Chinese-designed fighter bombers

capable of precision-strikes against Taiwan or long-range strikes against U.S. naval forces. These could be backed by about 200 Russian and Chinese-make 4th generation fighters and hundreds more 3rd and 2nd generation Chinese-made fighters.

By 2006 the PLA may have about 300 Russian Sukhoi Su-27 fighters and Su-30MKK/MKK2 fighter-bombers. Su-27s are being upgraded to be able to fire modern medium-range self-guided R-77 air-to-air missiles (AAMs) and the PLA is now building a co-produced version of this fighter, the Shenyang J-11, which features increasing domestic content like radar, weapons and engines. About 76 Su-30MKKs are in the PLA Air Force and 48 Su-30MKK2s may be in the PLA Naval Air Force by 2006.²² These are armed with a range of Russian precision guided munitions (PGMs) like the 3,300lb KAB-1500 and soon, the 288km range Kh-59MK anti-ship missile. Both the PLA Air Force and Navy are buying the Xian JH-7A fighter-bomber, which features modern radar, precision weapons, and supersonic anti-ship missiles and is powered by a version of the British Rolls Royce Spey turbofan engine.²³ China's first domestic 4th generation fighter, the Chengdu J-10, is about to enter full production, with 200 to 300 being powered by the Russian AL-31FN turbofan before being supplanted by the indigenous WS-10A turbofan engine. These will be armed with self-guided PL-12 medium-range AAM and new Chinese PGMs. China may also be interested in the 300km range Russian Novator KS-172 AAM.²⁴ Both Shenyang and Chengdu are working on advanced 5th generation fighter designs that could enter service by the middle of the next decade. In addition, the PLA is building more older Soviet-era Xian H-6 (Tupolev Tu-16) bombers armed with new cruise missiles,²⁵ but may be designing a new advanced long-range bomber, as it considers recent Russian offers to sell Tupolev Tu-22M-3 BACKFIRE supersonic bombers.

China reacted to the U.S. affront in June 2000 of stopping Israel's sale of its advanced Phalcon active phased-array airborne radar by starting a crash program to build its own active phased-array airborne radar.²⁶ In 2005 there are two Russian A-50 airborne radar (AWACS) airframes being outfitted with a new Chinese radar. These have been joined by a new version of China's Shaanxi Y-8 transport outfitted with linear shape active-phased array radar, a prototype of which has been in testing since 2001. The PLA has already converted a small number of H-6 bombers to serve as aerial refueling tankers and Russian reports indicate China is also about to purchase about six Russian Ilyushin Il-78 aerial tankers,²⁷ which could enable greater persistence for Su-30s over Taiwan and the South China Sea, or allow a small number to strike as far a Guam.

The 2005 DoD PLA Report justly calls attention to the real threat posed by the PLA purchase of advanced Russian S-300 SAMs. These advanced SAMs present a formidable obstacle to Taiwan and U.S. forces that may seek to interdict PLA forces attacking Taiwan. In August 2004 the PLA was reported close to buying 8 new batteries of S-300PMU-2 missiles, on top of 12 batteries of S-300PMU and S-300PMU-1 missiles.²⁸ A battery may contain 38 to 48 missiles, meaning the PLA is on its way to acquiring about 760 of these deadly missiles. In addition the PLA is developing new advanced SAMs like the FT-2000 family.

New Nuclear And Non-Nuclear Attack Submarines

While the U.S. will likely not begin to fulfill the Bush Administration's 2001 pledge to sell Taiwan 8 new conventional submarines (SSKs) until after 2010, by that year the PLA Navy could take delivery of over 20 new domestic SONG A and YUAN-class conventional submarines, 12 Russian KILO-877/636/636M conventional submarines, and 5 or more new indigenous Type 093 nuclear attack submarines (SSNs)—the third Type 093 is now under construction. In addition, the PLAN could retain up to 20 older Type 035 MING-class conventional and about 4 older Type 091 HAN-class SSNs. This raises the prospect of by 2010 of a Chinese fleet of over 50 modern-to-moderate attack submarines capable of engaging Taiwan, U.S. and Japanese naval forces. By this year the US will have about 50 SSNs to cover its global defense obligations while Japan will only have about 20 SSKs.

China's new attack submarines will be modern, capable and well-armed. New 2nd generation Type 093 SSNs are expected to be a vast improvement over the 1st generation Type 091 models. They are often compared to late model Russian VICTOR-III SSNs, which could hold their own against early model U.S. LOS ANGELES class SSNs.²⁹ This may not be inaccurate as the Type 093 reportedly benefits from Russian Rubin bureau design assistance, Russian-influenced nuclear power plants and advanced Russian welding and construction techniques. They will be armed with new Chinese wire-guided torpedoes, and later in the decade, new Chinese LACMs. Once there is a build-up of Type 093s it should be expected that the PLA Navy may undertake patrols near the U.S. in order to draw U.S. SSNs back to defensive patrols.

A new SSK launched at the Wuhan yard in July 2004, dubbed the YUAN by the U.S. Navy,³⁰ may have benefited from extensive Russian Rubin bureau assistance, as it bears a striking resemblance to Rubin's AMUR 1650-type SSK. Optimized for patrol and attack missions, the YUAN may feature torpedo, mine and missile armament, and later if not already, feature new Air Independent Propulsion (AIP) which could allow for 2-3 weeks of submerged operations without having to surface to recharge batteries. Since undergoing an extensive redesign in the late 1990s, the PLA has launched about a dozen Type 039 SONG A-class SSKs. Chinese sources confirm they are now being produced at two shipyards: Wuhan and Shanghai.³¹ Strongly resembling the French AGOTSA-class SSK, the Type 039 displaces 1,992 tons, has a range of 6,000 nautical miles and can dive at least 300 meters.³² Chinese television reports indicate it uses modern digital combat and ship control systems. Optimized for blockade and patrol missions, it is armed with new wire-guided torpedoes, mines and an anti-ship missile based on the C-802.

Finally, in 2005 the PLAN is expected to take delivery of the first of 8 new Russian KILO 636M SSKs ordered in 2002, with final delivery expected by 2007 or 2008. These will be added to two KILO 877 and two KILO 636 SSKs already in service. The KILO 636M features improved stealth over an already quite design, longer range, and the addition of the Novator CLUB-S missile system. CLUB-S can incorporate up to three missiles: the 275km range subsonic 3M-14E cruise missile, which comes in anti-ship and land-attack versions; the unique 220km range 3M-54E, which flies at subsonic

speed most of the way to its target, but then launches a supersonic second stage designed to overcome ship defenses; and the 91PE1 anti-submarine missile, which fires out to 50km, where it drops a rocket-propelled APR-class homing torpedo.

New Advanced Surface Warships

Following the failure of its 1995 to 1996 attempts to intimidate Taiwan the PLA embarked on a major warship building and purchasing program. Up to 2002 the PLA Navy could call on about 21 destroyers and about 42 frigates. By 2010 this force could exceed 31 destroyers and 50 frigates, backed up by 30 ocean-capable stealthy fast attack craft. Such a force could then be used in conjunction with submarines and attack aircraft to impose a naval blockade around Taiwan. Surface ships could also defend the airspace around Taiwan from U.S. Naval forces, especially its P-3 anti-submarine warfare aircraft which would play a critical role in defeating a blockade.

In September 1996 the PLA purchased from Russia two Project 965E SOVREMENNIY-class missile destroyers armed with the 120km range supersonic MOSKIT heavy anti-ship missile and the SHTIL SAM. These were delivered in 1999 and 2000. Then in January 2002 the PLA ordered two more modified Project 965EM missile destroyers, with improved 200km range MOSKIT anti-ship missiles and two KASHTAN combined gun/missile ship defense systems. Both ships were launched in 2004 and are expected to be delivered to the PLAN in 2005 and 2006.³³ There are reports of PLA interest in ordering two more Russian destroyers.

The 1995 to 2000 five year plan also saw the beginning of new domestic warship building in which the PLA developed new stealthy warships benefiting from Russian or Ukrainian design advice, weapons, electronics and other systems, plus new computer aided design methods which speeded their development. By 2002 it was possible to observe the construction of three new classes of warships via Chinese internet sources. First to emerge were two of the No. 168 class, which armed with Russian SHTIL SAMs, Russian radar, Kamov Ka-28 ASW helicopters and Chinese C-802/803 anti-ship missiles, and powered by Ukrainian gas turbine engines. Soon after two No. 170 class destroyers were launched. These featured a large phased array radar similar in appearance to the U.S. AEGIS system, and were armed with new vertically-launched SAMs and a new large anti-ship missile. Most likely the new "AEGIS" radar comes from the Ukrainian KVANT bureau and is a newly-developed active phased array radar with a broad search range of about 150km, with a much longer "spot" search range.³⁴ This radar also puts the PLAN on the path to an eventual ATBM-capable system. Little is known about the new vertical-launched SAM or the new large SSM, which may be capable of supersonic speeds. Both destroyers serve to add new depth to PLAN air defense capabilities, a key requirement for being able to impose a naval blockade on Taiwan. Some sources expect that the PLA will soon build a repeat round of 2-plus-2 of these destroyers.

The PLAN is also building two more types of stealthy warship. In 2003 it launched two Type 054 stealthy frigates. Some sources indicate production was halted at two ships pending the completion of a new Russian SAM, most likely the 4.5 Mach

speed 9M317ME vertical-launched version of the SHTIL. As its maker ALTAIR says it will be ready for delivery in 2006,³⁵ it is likely that a new variant, the Type 054A, will soon begin production. The Type 054 is also powered by co-produced French-designed SEMT Pielstick marine diesel engines. As the first two Type 054 frigates were produced in different shipyards, when production resumes their number will increase quickly.

A fourth stealthy warship emerged in April 2004: a new fast-attack craft (FAC). Now being produced at two or three shipyards, this new FAC utilizes a wave-piercing catamaran (twin) hull design, which improves stability at high speeds even in rough seas. It is based on a design obtained from the Australian fast-ferry firm AMD. It could be armed with up to 8 C-802/803 or two MOSKIT anti-ship missiles. Its stealth characteristics come from its flat-sided shape and from radar-absorbing materials applied to the hull. While the PLAN has in the past built large numbers of missile-armed FACs for defensive missions, this new stealthy FAC could also be used in cooperation with larger ships and fighter-bombers to impose a blockade on Taiwan. Some sources estimate that the PLAN will build up to 30 of these new FACs. This ship also indicates the PLAN may be considering future larger fast-ferry based ships similar to experimental fast transport ships now being operated by the U.S. Army and Navy.

Growing Airborne And Amphibious Projection Forces

To make its threats to Taiwan credible the PLA has in recent years been strengthening its Airborne, Amphibious and Special Forces strike capabilities. These forces alone could comprise over 80,000 troops, but their mission is to secure areas for hundreds of thousands of follow-on forces. The PLA has taken to heart the hard-learned U.S. lesson of the Persian Gulf and the Balkans: airpower can only win wars or compel adversaries if backed by the use of or the credible threat of ground invasion. Expected improvements in sealift and airlift capabilities, along with the increasing mechanization of airborne and Army and Marine amphibious units will increase the reach and effectiveness of these forces. Once derided by some Western experts as the “million-man swim,” by the end of the decade, PLA “invasion” forces may be able to capture ports and airfields on Taiwan, leading to the capture of a large city, like Taipei, forcing a rapid surrender.

There are now new shipbuilding and aircraft acquisition programs to address PLA sealift and airlift deficiencies. The PLA Navy is now building two new types of LSM medium tank and troop landing ships, a total of about 12 since 2002, added to 20 or so ships of the same class. These ships can carry an average of about 10 tanks and 250 troops. The PLA may now be considering building new 15,000 to 20,000 ton LDH class amphibious ships that will use new hovercraft tank and troop conveyers similar to the U.S. LCAC, and large helicopters, allowing assaults from greater distance and against more difficult shore terrain. In addition, the PLA has access to 200-300 smaller specialized landing ships and to a much larger number of civilian fast ferries and large RO-RO (roll on-roll off) cargo ships that can use captured ports. For example, China can mobilize over 150 “civilian” fast ferries that could carry 100 to 500 troops each.³⁶

To fully exploit their growing lift capacity the PLA is also introducing more specialized combat equipment into its Marine and Army amphibious units. The goal is to make these forces more powerful and mechanized in order to secure objectives and contribute to follow-on attacks. Both Marine and Army amphibious units have received hundreds of the new Type-63A amphibious tank, armed with a 105mm gun that fires new 5km range laser-guided missiles based on the Russian BASTION, which outranges the 105mm guns on Taiwan's tanks. Both have also received the new Type-63C armored personnel carrier (APC) and Army units are receiving a new family derived from the larger Type-89 family. These new tanks and APCs can be launched from miles offshore to reduce LST vulnerability. Armor units will have better logistic support now that the PLA has devised new rolled mesh surfaces to lay on sand or coral beaches to better allow LSTs to land trucks.

Airlift now comprises about 20 Russian Il-76 heavy jet transports which can carry 120 paratroops or a 47 ton payload and about 50 Y-8 transports which can carry 90 paratroops or about 20 tons of cargo. To this should be added about 220 Russian Mil-8/17 helicopters that can carry about 25 troops. The PLA is reportedly close to closing a deal for about 30 more Il-76 transports³⁷ and will soon be producing a better version of the Y-8. There have also been discussions with the Ukraine about acquiring or even co-producing its very large Antonov An-124 which can carry over 150 tons. However, once airfields are captured and secured the PLA can mobilize over 500 "civilian" Boeing and Airbus airliners to ferry troops and material.

The 15th Airborne Army has about three divisions of 35,000 troops³⁸ and there is some concern that the PLA is building a second airborne army. In the last year these units have started to receive a new family of 10-ton air-mobile armor vehicles after the failure of attempts to manufacture the Russian BMD vehicle. They will come in 30mm cannon armed infantry fighting vehicle, HJ-8 anti-tank missile vehicle, and command vehicle versions.³⁹ Airborne units are also receiving new Italian-designed IVECO light trucks, some of which are armed with HJ-9 anti-tank missiles and which give airborne troops added mobility. PLA Special Forces can also be expected to play a key role in a Taiwan invasion, from the assassination of key civilian and military figures and key personnel like pilots, to general sabotage and preparatory attacks for airborne and amphibious assaults. The PLA has invested heavily in expanding the size, training and specialized equipment for Special Forces.

Questions for American Leadership

China's rapidly growing military power, with its primary focus on destroying Taiwan's democratic future, serves as a challenge to American leadership in Asia on many levels. First, China is now succeeding in tipping the military balance on the Taiwan Strait against Taiwan for the first time in decades. This may increase confidence in a "military solution" to unification with Taiwan, which can only increase the chances that China will decide to attack Taiwan. By expanding its military might and isolating Taiwan, the PRC hopes to convey a sense of inevitability that China will soon emerge as Asia's primary power. It is already using its threat of war against Taiwan to force South

Korea, Japan and Australia to limit their military alliance cooperation with the United States. Japan, much to its credit, is rising to share the U.S. concern with China's growing military threat to Taiwan. Sadly, South Korea is signaling its unwillingness to allow U.S. forces there to be used in aid of democratic Taiwan⁴⁰ while Australia appears to be wavering in its willingness to help the U.S. in the event it elects to help defend Taiwan.⁴¹ But should China be successful in conquering Taiwan, it will set its sights on the U.S. military alliance and cooperation network in Asia. For many years China has been opposed to new cooperation between the U.S., Japan and Australia in the area of missile defense, a preview of a more aggressive campaign to displace U.S. leadership in Asia. Specific questions for U.S. policy are as follows:

Can Taiwan's armed forces continue to deter the PLA ?

Taiwan's politics, particularly those of the opposition Kuomintang Party, has delayed its purchase of a U.S. arms package offered in 2001 of PATRIOT PAC-3 anti-missile SAMs, 12 P-3 anti-submarine aircraft and 8 new submarines. Given that the PLA will soon accelerate its missile threat with the addition of LACMs, begin adding J-10^{4th} generation fighters, and continue to expand its nuclear and conventional attack submarine fleet, it is justified to ask whether the 2001 U.S. arms package remains sufficient to continue to deter a Chinese attack. It is necessary to ask whether a new U.S. diplomatic and arms sales effort is required to convince fractious Taiwanese politicians that their lack of defense investment threatens their survival.

Should the U.S. continue to focus on selling only anti-missile missiles to Taiwan?

For the nearterm Washington should continue to offer PATRIOT PAC-3 anti-missile missiles to Taiwan but these could also soon be overwhelmed by expected PLA SRBMs, MRBMs and LACMs. One inexpensive answer is for Taiwan to expand its use of "passive" defenses like underground shelters to protect vital personnel and forces. But it may also be necessary for the U.S. to begin to involve Taiwan in energy-based anti-missile defense programs or rail-gun programs. If these options cannot produce fast solutions then the U.S. must consider acquiescence to Taiwan intentions to develop its own limited ballistic and cruise missile force to deter the PLA.

Will U.S. Air Forces continue to be able to deter China's Air Forces?

For Taiwan contingencies the U.S. Air Force can call on about 220 F-15C/E and F-16C fighter aircraft between South Korea, Japan, Alaska and Hawaii. The U.S. Navy can call on about 340 F-18C/E/F assigned to six aircraft carrier wings based in Japan, California and Washington states. But the front line would be the 48 aging F-15Cs of the Fifth Air Force based at Kadena Air Base on Okinawa and the 56 F-18C/F fighter-bombers with Carrier Air Wing Five assigned to the Japan-based USS. Kitty Hawk. The F-15C and the F-18C are no longer decisively superior to the PLA's Sukhoi Su-27/30 and J-10 fighters—which will also place a high priority on attacking key U.S. force multipliers like AWACS and refueling tankers. The PLA can also be expected to place a high priority on attacking Okinawa and Guam with missiles and Special Forces. As the

F/A-22A fighter is the only U.S. fighter that is decisively superior to current PLA fighters, one must ask whether the reported planned purchase of 180 is sufficient to help deter a PLA attack on Taiwan in addition to meeting other U.S. global commitments. It is also necessary to ask whether a new priority must be placed on providing missile defenses for Okinawa and Guam—which currently have none.

Will the U.S. have enough attack submarines to continue to deter the PLA's sub force ?

The U.S. currently has about 54 nuclear attack submarines to meet its global strategic commitments. However, there are some dire predictions that the high cost of new SSNs could see the U.S. fleet decline below 40 SSNs in the next decade. The U.S. Navy recently stationed three Los Angeles class SSNs at Guam, though one was severely damaged in an undersea collision in late 2004, and may not re-enter service. The U.S. usually requires three submarines in order to maintain one on station at any given time. Increasing PLA Navy submarine inventories, if they exceed 50 new SSNs and SSKs by 2010, raises the prospect that their surge deployment could severely impede the ability of a far fewer number of U.S. SSNs to protect U.S. naval forces or break a blockade of Taiwan. Given the growing PLA submarine challenge it is important to ask if 54 U.S. SSNs remains sufficient to deter the PLA, or whether a larger number is needed?

¹ Office of the Secretary of Defense, *Annual Report To Congress, The Military Power of the People's Republic of China 2005*, July 19, 2005, p. 13, 14. Hereafter called the "2005 DoD PLA Report."

² Danny Gittings, "General Zhu Goes Ballistic," *Wall Street Journal*, July 18, 2005.

³ Jason E. Bruzdinski, "Remarks as presented before the U.S.-China Commission Session on Military Trends in the Cross-Strait Relationship," 6 February 2004.

⁴ 2005 DoD 2005 PLA Report, pgs. 4, 33.

⁵ Interview, Zhuhai Airshow, November 1996.

⁶ Disclosed to the author by a U.S. source in September 2004.

⁷ Interviews, Moscow Airshow 2003; Zhuhai Airshow 2002 and 2004.

⁸ Interview, Zhuhai Airshow 2004.

⁹ Bill Gertz, "China tests ballistic missile submarine," *The Washington Times*, December 3, 2004, <http://www.washtimes.com/national/20041202-115302-2338r.htm>

¹⁰ *Report of the Select Committee On U.S. National Security And Military/Commercial Concerns With The People's Republic of China, Volume 1*, Submitted by Mr. Cox of California, Chairman, U.S. Government Printing Office, 1999, p. 185. (hereafter cited as the *Cox Report*)

¹¹ 2002 DoD PLA Report, p. 27.

¹² *Ibid.*, p. 28.

¹³ By comparison, the slightly smaller Russian SS-18 can carry 10 MIRV warheads. In the early 1990s China reportedly sought SS-18 technology from the Ukraine.

¹⁴ Interview, Zhuhai Airshow, November 2002.

¹⁵ "Ballistic and Cruise Missile Threat," Department of Defense, 1998, cited in the *Cox Report*, p. 187, Footnote 26, p. 256; Bill Gertz, "China advances missile program," *The Washington Times*, June 22, 2005.

¹⁶ In June 2005, Internet-source pictures emerged of a Type 091 HAN class SSN visiting the PLAN South Sea Fleet submarine base on Hainan Island.

¹⁷ These issues are explored by the author's "Developing US-Chinese Nuclear Naval Competition In Asia, at: http://www.strategycenter.net/research/pubID.60/pub_detail.asp

¹⁸ *Cox Report, Volume 1*, p. 186.

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- ¹⁹ Aliya Samigullina, "Ukraine Armed Iran and China," *Moscow Gazeta.ru*, March 18, 2005; Douglas Barrie, "China Provides Cash for Israeli Cruise Missile," *Flight International*, May 17-23, 1995, p. 5.
- ²⁰ "Taiwan Minister Says PRC To Have 800 Missiles Aimed at Taiwan in 2006," *Agence France Press*, March 8, 2005.
- ²¹ DF-3A and DF-21A numbers from Jane's Strategic Weapon Systems.
- ²² Russia's Rosoboroneksport Preparing 'Several Big-Ticket Contracts' With China," *Interfax-AVN*, December 24, 2006; "Beijing Preparing Major Arms Deal for Su-30MK2 Jet Fighters," *The Moscow Times*, December 28, 2004.
- ²³ See author, "Xian JH-7A Advances, News Airshow China 2004," *Air Forces Monthly*, January 2005, p. 21.
- ²⁴ After over a decade's hiatus, this missile may be benefiting from new development funds from a foreign client. China's interest was indicated recently in, Vladimir Karnozov, "The Chinese Line," *Voenno-Promyshlennyy Kur'er*, July 20, 2005.
- ²⁵ See author, "New build H-6s, News, Airshow China 2004," *op-cit*.
- ²⁶ Ed Cody, "China Now Test Flying Homemade AWACS," *The Washington Post*, November 13, 2004, p. A19.
- ²⁷ *Interfax-AVN*, January 6, 2004; Russia's Rosoboroneksport Preparing 'Several Big-Ticket Contracts' With China," *Interfax-AVN*, December 24, 2006.
- ²⁸ Lyuba Pronina, "Report: \$900M Arms Deal Is Close," *Moscow Times*, August 20, 2004.
- ²⁹ For an excellent Soviet-perspective account of how mid and late series VICTOR SSNs were able to deal with U.S. SSNs and SSBNs during the 1980s, see Gary E. Weir and Walter J. Boyne, *Rising Tide, The Untold Story of Russian Submarines That Fought The Cold War*, New York: Basic Books, 2003, Chapter 8.
- ³⁰ Bill Gertz, "Chinese produce new type of sub," *The Washington Times*, July 16, 2004.
- ³¹ Interview, IDEX, Abu Dhabi, February 2005.
- ³² Brochure, China Shipbuilding Trading Co., obtained at IDEX, February 2005.
- ³³ "Russian yard launches latest destroyer for China," *Jane's Defence Weekly*, May 12, 2004.
- ³⁴ Interview, IDEX, Abu Dhabi, February 2005.
- ³⁵ Interview, IDEX, Abu Dhabi, February 2005.
- ³⁶ Number derived from Stephen J. Phillips, editor, *Jane's High Speed Marine Transportation 2003-2004*, Coulsdon: Janes Information Group Ltd., 2003.
- ³⁷ *Interfax-AVN*, January 6, 2004; Russia's Rosoboroneksport Preparing 'Several Big-Ticket Contracts' With China," *Interfax-AVN*, December 24, 2006.
- ³⁸ *Military Balance 2004-2005*.
- ³⁹ Interview, IDEX, Abu Dhabi, February 2005.
- ⁴⁰ "Roh Says No Greater Role For USFK In Northeast Asia," *Chosun Ilbo*, March 8, 2005.
- ⁴¹ "Downer Denies War Speculation," *Melbourne Herald Sun*, August 19, 2004; Ian Bostock, "US alliance disturbs Australia-China calm," *Jane's Defence Weekly*, March 16, 2005.