

THE NUCLEAR DOCTRINE AND FORCES OF THE PEOPLE'S REPUBLIC OF CHINA

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Executive Summary

China is the only nuclear power that is increasing its strategic nuclear forces, both qualitatively and quantitatively. It is also rapidly building its “conventional” missile forces. These developments are linked to preparations for a war against Taiwan which China believes may require the People’s Liberation Army (PLA) to fight the United States and, possibly, Japan. Both the nuclear and conventional missile buildups are therefore aimed at defeating the United States. While China would certainly prefer “winning without fighting,” it is prepared to use nuclear weapons, if necessary, to win.

Chinese nuclear doctrine is burdened with significant quantities of political propaganda, most notably a pledge of “no first use” of nuclear weapons. A careful look at the Chinese wording of “no first use” reveals that it commits them to nothing. In fact, there are repeated reports out of Chinese and regional press sources that the PLA plans for first use, e.g., threats by Chinese generals to use nuclear weapons if the United States were to come to Taiwan’s defense and a statement by China’s U.N. Arms Control Ambassador that “no first use” does not apply to Taiwan.

In the post-Mao period, Chinese nuclear doctrine has evolved toward “active defense” which has a nuclear warfighting component. This trend appears to be even more pronounced in the Chinese December 2006 White Paper. There seems to be a direct linkage between the scope of Chinese nuclear weapons capabilities and Beijing’s views about the utility of using them.

China has advanced nuclear weapons technology which has been augmented by large scale espionage against the United States. This includes fairly advanced thermonuclear warheads, enhanced radiation weapons and other tactical nuclear weapons, including nuclear artillery and anti-ship weapons. The Chinese nuclear arsenal is variously estimated at over 100 to over 2,000 weapons. The story that China has said it has 200 weapons is a mischaracterization by Western journalists who combined Chinese and U.K. declaratory policy. China is reported to have plans and capabilities for an EMP attack.

China has the largest ballistic missile program in the world today. By October 2006, China had 900 precision-guided short-range missiles for use against Taiwan and Japan. The PLA is continues to produce these missiles at a rate of 100 per year. These are referred to as “conventional” missiles and most of them probably are—however, they are almost certainly nuclear capable. Chinese short-range missiles are clearly designed to suppress land-based aircraft and reportedly are designed to attack carriers. This is discussed openly in the Chinese press. China is also developing new MRBMs and

IRBMs, which are precision-guided and may be nuclear-capable, in order to attack Okinawa and Guam. China has an ambitious program underway to develop and deploy two new ICBMs (DF-31 and DF-31A), a new SLBM (JL-2) and a new SSBN. There are no official estimates as to the numbers that will be deployed or how many warheads they may ultimately carry.

The danger posed by these technical and doctrinal trends is amplified by the growth of extreme nationalism which is replacing communist ideology as the regime's claim to legitimacy. This situation is being compounded by the emergence of a new "strategic relationship" between Russia and China which is based upon legacy Cold War attitudes toward the United States.

It is noteworthy that the increasing role played by nuclear weapons in Chinese strategy has occurred while most Western scholars continue to characterize the PRC's approach as "minimum deterrence." Chinese war plans seem to relate to the quantity and quality of nuclear weapons available rather than any Western minimum deterrence concepts. We can expect this trend to continue as the nuclear balance shifts in the Chinese favor. As the Pentagon's 2006 report on Chinese military power notes: "it remains to be seen, however, how the introduction of more capable and survivable nuclear systems in greater numbers, will shape the terms of this debate or affect Beijing thinking about its nuclear option in the future."¹

Introduction

The Peoples Republic of China (PRC) is the only nuclear weapon state that has openly embraced long-term qualitative and quantitative expansion of its nuclear force. The Chinese Defense Ministry publicly proclaims that it is engaging in the “strengthening and improvement and development of missile weapons” with “both nuclear and conventional capabilities to cover different ranges, and to significantly increase firepower and efficiency.”² Why should we care? The short answer is that the PRC’s nuclear buildup is part of the preparations for a war against Taiwan and, if necessary, a war against the United States and Japan. The Hong Kong press reports that “high level Chinese leaders have planned to resolve the Taiwan issue by the year 2020” and this is responsible for the Chinese buildup of advanced arms.³ According to the Congressional Commission on U.S.-China Economic and Security Review, Chinese military programs are aimed at achieving a capability to “...defeat and occupy Taiwan if it declares independence and to accomplish this before U.S. or other military assistance can arrive; and to deny U.S. forces the ability to intercede effectively in such a conflict and prevent China from prevailing.”⁴ One U.S. intelligence community estimate states that China is currently spending \$80-115 billion a year on its military; a number that is rapidly growing.⁵

According to the U.S. Department of Defense, “The Chinese People’s Liberation Army (PLA) is modernizing its forces emphasizing preparations to fight and win short-duration, high-intensity conflicts along China’s periphery. PLA modernization has accelerated since the mid-1990s in response to central leadership demands to develop military options for Taiwan scenarios.”⁶ Indeed, the PRC commitment to this objective seems to be thorough and extreme. In December 2004, China’s Defense Ministry stated in a White Paper that:

The situation in the relations between the two sides of the Taiwan Straits is grim....The separatist activities of the ‘Taiwan independence’ forces have increasingly become the biggest immediate threat to China’s sovereignty and territorial integrity as well as peace and stability on both sides of the Taiwan Straits and the Asia-Pacific region as a whole.... [T]he Chinese people and armed forces will resolutely and thoroughly crush it **at any cost**.⁷ (Emphasis added)

Since the 1990s, there have been many reports of the escalating role of nuclear weapons in PRC strategy relating to Taiwan. In 1999, Hong Kong journalist Chen Kai reported that the PRC would deploy a number of new strategic missiles because, “...Jiang Zemin and the top military leaders believe that it is necessary to display the details of the rapid growth of China’s military strength in recent years, and to a certain

degree this can deter foreign intervention in the Taiwan issue.”⁸ In the words of Yan Xuetong, Director of the Qinghua University Institute of International Affairs, “...so long as China is ready to achieve reunification at all costs, the United States will consider whether it is necessary to support Taiwan independence at the price of a nuclear war.”⁹

Discussions of Chinese thinking about nuclear weapons go beyond the Hong Kong press. In March 2005 a Chinese military journal quoted a “senior military officer” as saying that “Beijing has promoted preparation for dealing with all possible situations, including a nuclear war with the United States, considering that the United States may intervene if China takes military action for its unification with Taiwan.”¹⁰ As recounted by expert on Chinese military affairs Kenneth W. Allen:

According to [China expert] Brad Roberts, the debate within China about how the PLA might use nuclear weapons has changed rather dramatically in the past couple of years, especially following the Kosovo war.... [T]here is all sort of speculation about how to use nuclear weapons to scare the Americans away – or to defeat its conventional forces in the Taiwan Strait without inciting U.S. escalation.¹¹

While China has dramatically improved its military capabilities since the mid-1990s, a Chinese invasion of Taiwan is roughly analogous to the World War II invasion of Normandy and it would be undertaken by a Chinese military that has never staged a major amphibious invasion. What will China do if a conventional attack fails? Will China use nuclear weapons if it is necessary to win as so many in the PRC maintain? Will it launch a preemptive attack on the United States as part of an attack designed to seize Taiwan? Because of the difficulty of an invasion of Taiwan, there is concern in the Defense Department that China may use nuclear EMP attacks in support of an attack against Taiwan.¹² Similar concerns exist among Taiwanese military analysts.¹³ According to Colonel Douglas McGready, writing at the U.S. Army War College, “Few American analysts and decision makers take this possibility as seriously as Chinese military history would seem to warrant.”¹⁴ The real concern, as Rear Admiral (ret.) Eric A. McVadon has written, is that a Chinese attack on Taiwan will not be as easy as China makes it out to be and has “the potential for virtually unlimited escalation.”¹⁵

The stakes in the Taiwan Strait are potentially quite drastic for both the PRC and the United States—to say nothing of the Taiwanese who appear to increasingly value their independent identity.¹⁶ Understanding the purpose, pace and scope of Chinese nuclear weapons developments is therefore critical for American policymakers who are responsible for planning, acquiring and deploying U.S. military forces that might deter such a conflict or be called upon to act should deterrence fail.

Chinese Nuclear Policy and Doctrine

Chinese nuclear doctrine has been seriously affected by the issue of Taiwan. According to Brad Roberts, “the vision of People’s War that took hold among the Chinese leadership in the late 1950s encompassed an expectation of ‘an early war, an all-out war, and a nuclear war’.”¹⁷ In 1958, Mao told Andrei Gromyko that “a war over Taiwan was definitely in the cards ‘for the future,’ and that it would likely be a nuclear war.... Mao then wrote to Khrushchev confirming that he would be only too happy for China to fight a nuclear war with America alone. ‘For our ultimate victory,’ he offered, ‘for the total eradication of the imperialists, we [i.e., the Chinese people, who had not been consulted] are willing to endure the first [U.S. nuclear] strike. *All it is a big pile of people dying* [our italics].”¹⁸ However, this dismissive attitude masked the lack of strategic thought given to military missile and nuclear programs.¹⁹

In contrast, today’s leaders in Beijing are preparing for a war with Taiwan on the assumption that the United States will be involved and are thinking about nuclear weapons in this context. In 1999 a Chinese military journal, *Jianting Zhishi*, reported to reflect the views of the PLA, stated with regard to attacking Taiwan, “The best way to destroy enemy aircraft on the ground and vessels in naval bases is **to use strategic nuclear weapons**.”²⁰ (Emphasis added). It is noteworthy that in August 1999 China announced an ICBM test launch for the “protection of [China’s] territorial integrity.”²¹ According to Chinese Major General Yao Youzhi, “during the period of ‘new military changes,’ the Chinese armed forces must comprehensively upgrade their deterring capability and capability to engage in real warfare in order to provide powerful support for ensuring national security, achieving national reunification....”²² He is reported to have also stated, “Although the Taiwan Strait issue is China’s domestic issue, it has evolved to become an international issue. If a war actually erupted in the Taiwan Strait, it is possible that it will involve the military forces of other countries, creating a complex war situation. ‘However, no matter in what way the situation will develop, China has had the capability of winning this war’.”²³ Even after the death of Mao Deng Xiaoping continued the Maoist line that, “It is impossible to exterminate the human race by using nuclear weapons....More than two billion people would live on the globe just the same.”²⁴

“No First Use” Propaganda

Ideology and propaganda have played the decisive role in Chinese nuclear strategy since Mao's time. This propaganda was intended for both external and internal consumption. In August 1945 Mao indicated that he was concerned about the views of party members about nuclear weapons: “Some of our comrades, too, believe that the atomic bomb is all powerful; that is a big mistake.”²⁵ External and internal political propaganda about nuclear weapons dates to the earliest days of the PLA involving two contradictory themes: 1) “The atomic weapon is a cruel weapon that should be prohibited...”and; 2) “...it is a weapon of limited effectiveness. Its power is equal to 2000-3000 tons of high explosive...”²⁶ Despite the technical superiority of potential enemies, Chinese propaganda and plans held that cunning, strategy and perseverance could win the day. For example, in June 1952 a Chinese propaganda pamphlet, according to China scholar Alice Langley Hsieh, expressed the view that the U.S. “was planning to use the atomic bomb, but that the bomb was not dreadful and that the enemy could be outwitted.”²⁷ Thus to understand fully Chinese nuclear strategy it is necessary to strip away the propaganda.

When China announced its “no first use doctrine” in 1964 it simultaneously faced tens-of-thousands of nuclear weapons (with little hope of reducing the disparity to even one hundred-to-one within the foreseeable future) and movement toward a crisis relationship with the Soviet Union. By that time, Sino-Soviet relations had become very dangerous for China. Indeed, the Soviet leadership would soon be debating whether to launch a preemptive attack on Chinese nuclear facilities. In 1969 China so feared a Soviet attack using nuclear weapons that it went so far as to tell the Chinese public to make preparations.²⁸ According to Lt. General Zhao Xijun, then Second Artillery Deputy Commander, in August 1969, “The Soviet Union was planning to use small nuclear bombs to destroy China's nuclear missile bases” to which Mao responded by conducting a “nuclear test’ [which] made Soviet authorities weigh the pros and cons and consider the situation very carefully.”²⁹ The Second Artillery is principal custodian of the PLA's missile and nuclear forces.

Today, the PRC has told the world not to worry about the growth of Chinese nuclear capability because China has made a “solemn pledge to the world that China's nuclear weapons are solely for defense. Never, under any circumstances, will China be the first to use nuclear weapons.”³⁰ Zhang Yan, Director of the Department of Arms Control and Disarmament under the Chinese Ministry of Foreign Affairs, stated in September 2005, that China would “not be the first to use such weapons at any time and in any circumstances and committed unconditionally not to use or threaten to use nuclear weapons against non-nuclear weapon states or nuclear weapons free zones.”³¹

A PLA commentary on the December 2006 White Paper in a Central Military Commission publication strongly asserted that “there have been no changes” in China's “no first use’ policy.”³² Perhaps so, because, as former U.S. military attaché to China,

Col. (ret.) Larry Wortzel has pointed out, it is a cleverly worded but meaningless formulation: "The U.S. has already used nuclear weapons against Japan in August 1945...[thus] if China launched a surprise nuclear attack tomorrow, it would still not be the first nation to use nuclear weapons."³³ In this tradition, the White Paper states that China is committed to "counter attack in self defense," but it does not say to what the nuclear "counter attack in self defense" is responding.³⁴ It is worth noting that China has described its 1979 invasion of Vietnam as a "self defense counterattack."³⁵

Chinese commitment to even such well-parsed definitions is quite suspect. Kenneth W. Allen has written, "Faced with the threat of a conventional Soviet invasion in the 1980s, Beijing's military strategists argued that the first-use of nuclear weapons on Chinese territory would not have violated its pledge."³⁶ Dr. You Ji, of the University of New South Wales, records that, "In private conversations with a number of senior Chinese researchers immediately after the Gulf War, I asked them whether the PLA would consider the use of nuclear weapons as the last resort if it were in the Iraqis' position and deemed that nothing could stop the enemy's advance. They agreed that it would probably be the only option left to the PLA. Some of them cited the Russian example to make the point."³⁷ Lt. Colonel Mikhail Gatsko and Colonel (res.) Sergey Sukov, (both Russian Ph.D. equivalents), observed that Chinese nuclear doctrine "does not exclude the possibility of delivering a first nuclear strike...on its own territory should it be occupied by the enemy."³⁸ Indeed, in 1996 Chinese ambassador Sha Zukang stated that, "As far as Taiwan is concerned, it is a province of China, not a state. So the policy of no first use does not apply."³⁹ While this statement was corrected by the Chinese Foreign Ministry, the Chinese ambassador was retained in place and, in August 2006, he repeated the Chinese position that if the Taiwanese declared independence, "We will do the business at any cost."⁴⁰

If "no first use" is really Chinese government policy, how does one explain the fact that over the last decade there have been repeated threats from the Chinese military of first use against the United States over the Taiwan issue? According to Andrei Chang, founder and editor of the *Kanwa Defense Review*, a Canada-based publication that specializes in following the Chinese military developments, "after 1996 China has a number of times attempted to impose nuclear deterrence against the U.S. and Taiwan, both strategically and tactically."⁴¹ Perhaps the most famous recent such threat was made in 1996 by Lt. General Xion Guangkai. Then a Deputy Chief of the General Staff, the General made an implied threat to destroy Los Angeles in the event of a conflict over Taiwan.⁴² He was also quoted as saying that to prevent Taiwanese independence, "China was prepared to sacrifice millions of people, even entire cities in a nuclear exchange..."⁴³ Writing in 2000, academic Ellis Joffe noted that: "A Chinese military publication was more blunt. The United States, it said, will not sacrifice 200 million Americans for 20 million Taiwanese..."⁴⁴ He added, "They will acknowledge it [the Chinese victory] and withdraw."⁴⁵ Another Chinese military journal reportedly said that China had made preparations to "fight a nuclear war with the United States."⁴⁶ In February 2000 Colonel Zhu Chenghu, then Deputy Chief of the Strategic Research

Institute of Chinese National Defense University, stated that, “China has the capability to launch a nuclear attack against the United States. If the United States tried to interfere in our dispute with Taiwan, it would suffer a powerful blow as a result.”⁴⁷ In July 2005, Zhu Chenghu, now a Major General and a Dean of the National Defense University, at a meeting for reporters sponsored by the Chinese Foreign Ministry, threatened the destruction of several hundred U.S. cities if the United States used conventional weapons against China in response to a Chinese attack on Taiwan.⁴⁸

What better propaganda than a supposed “no first use” of nuclear weapons under any circumstances? A 1996 *Times of India* article by K. Subrahmanyam, a prominent India strategic analyst, diplomat, and journalist, accurately pointed out the hypocrisy of the Chinese position:

The Chinese leadership comes from the Maoist tradition which asserts that power flows from the barrel of a gun. While calling nuclear weapons paper tigers, it went all out to get them at great cost to their people. It talked about joining the disarmament process if the US and Soviet Union brought down their arsenals to half their original levels and has gone back on it. It talks about no-first use but tests tactical nuclear weapons which are essentially first-use weapons.⁴⁹

Presently, China faces no serious risk of invasion by a massive Army or the use of chemical or biological weapons against it by a rogue state. Because China has no allies it does not need to worry about extending nuclear deterrence. There are also indications that the PLA sees the equities concerning its “no first use” declaratory policy as changing. Kenneth Allen observed that after the Kosovo War there were “many voices participating” in the Chinese nuclear debate which included, “all sorts of speculation about how to use nuclear weapons to scare away America – or defeat its conventional forces in the Taiwan Strait without inciting U.S. escalation.”⁵⁰ However, since it costs China nothing to expound a doctrine of “no first use” which does not impact its procurement programs as it would in the West. In this context, “no first use” propaganda makes sense at least until the military balance decisively shifts in the Chinese favor.

“Minimum Deterrence?”

It is generally believed that early Chinese nuclear strategy was based on the concept of “minimum deterrence,” despite the fact that there was not the slightest similarity between the views of Chairman Mao and the views of leading U.S. proponents of “minimum deterrence,” such as Robert McNamara, Herbert York, Thomas Schilling and others. Western “minimum deterrence” was rooted in the belief that nuclear weapons were a threat to mankind, could not be used without the destruction of civilization and focused on the limitation of such weapons both quantitatively and qualitatively. Advocates of “minimum deterrence” have generally opposed U.S. modernization and

advocated arms control a solution to the problem created by nuclear weapons. Counter-city targeting was adopted by “minimum deterrence” advocates because it required fewer weapons than counterforce targeting. Chen Zhou of the Chinese Academy of Military Science’s Strategy Department summarized Mao’s view of war as, “fighting sooner, fighting on a larger-scale, and fighting a nuclear war,”⁵¹ a view completely unlike “minimum deterrence.” A 2006 *Rand* study headed by Dr. James C. Mulvenon characterized early Chinese strategy as “existential deterrence.”⁵² According to this study, Chinese strategy evolved into “minimum deterrence” and is evolving further to “credible minimum deterrence.”⁵³ This view tends to confuse the level of capability and survivability with strategy, which are not necessarily the same thing. Chinese strategy took into account the limitations that then existed on Chinese nuclear capability but this is not the same thing as believing that such limitations were desirable. The Chinese do not see survivability as an end in itself but as a necessary characteristic for their broader nuclear their strategy. This strategy, as it evolved, was not limited to the “minimum deterrence” view that nuclear weapons had the single function to deter their own use through threatening cities.

Irrespective of what Chinese nuclear strategy was under Mao, as Dr. Mulvenon has correctly written, “more recent Chinese writings call for an aspirational doctrine of limited deterrence (*youxian weiche*) comprised of counterforce, warfighting capabilities to deter conventional, theater, and strategic nuclear war, and to control and suppress escalation during a nuclear war.”⁵⁴ China expert David Shambaugh also noted the PRC’s shift toward the ability to “wage a nuclear war, albeit minimally.”⁵⁵ He argued that China’s view of nuclear warfighting is focused on regional warfare involving the use of tactical nuclear weapons.⁵⁶ This is partially a result of the INF Treaty which has given China a monopoly on theater nuclear ballistic missiles and the U.S.-Russia Presidential Nuclear Initiatives of 1991-1992 which gave China a monopoly on tactical nuclear weapons in a conflict over Taiwan.⁵⁷ Men Honghua, affiliated with the Institute of International Strategy at the Central Communist Party School, wrote that, “On the level of military strategy, China adheres to active defense strategic thinking and calls for prevailing in a local war under conditions of modern technology, especially high technology; with regard to the construction of the military. China will move from the quantity-intensive type and manpower-intensive type to the quality and efficiency type and the science- and technology-intensive type.”⁵⁸

According to *Xinhua*, the “white paper *China's National Defense in 2006* unveiled on December 29, 2006 has, for the first time, made public China's nuclear strategy....”⁵⁹ It stated:

Pursuing a self-defensive nuclear strategy. China's nuclear strategy is subject to the state's nuclear policy and military strategy. Its fundamental goal is to deter other countries from using or threatening to use nuclear weapons against China. China remains firmly committed to the policy of no first use of nuclear weapons at any time and under any circumstances. It unconditionally undertakes not to use or threaten to

use nuclear weapons against non-nuclear-weapon states or nuclear-weapon-free zones, and stands for the comprehensive prohibition and complete elimination of nuclear weapons. China upholds the principles of counterattack in self-defense and limited development of nuclear weapons, and aims at building a lean and effective nuclear force capable of meeting national security needs. It endeavors to ensure the security and reliability of its nuclear weapons and maintains a credible nuclear deterrent force. China's nuclear force is under the direct command of the Central Military Commission (CMC). China exercises great restraint in developing its nuclear force. It has never entered into and will never enter into a nuclear arms race with any other country.⁶⁰

The key elements of this “new” Chinese declaratory policy go back to the Mao era. In 1971 the Chinese government stated that its nuclear weapons were “entirely for the purpose of defense,” that it stood for “finally eliminating nuclear weapons” and that China “will...[never] be a ‘nuclear superpower’ practicing the policies of...nuclear threats and nuclear blackmail....”⁶¹ These continue to be standard propaganda themes. China has gradually moved toward more emphasis on nuclear threats and integrating nuclear weapons into its plans for “active defense” and local war.⁶² In the December 2006 White Paper there was an increased emphasis on strategic nuclear weapons in local warfare which, needless to say, is much different from the Western concept of “minimum deterrence.” If there was anything “new” in the White Paper, it was the more explicit role for nuclear weapons in the equation of “active defense” and “local war.” It states:

Implementing the military strategy of active defense. The PLA ensures that it is well prepared for **military struggle, with winning local wars** under conditions of informationization and enhancing national sovereignty, security, and interests of development as its objective....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**. The Air Force 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. The Second Artillery Force aims at progressively improving its force structure of having both **nuclear** and conventional missiles, and raising its capabilities in strategic deterrence and conventional strike under conditions of informationization.⁶³ (Emphasis added)

Because of its focus on a Taiwan scenario, the PLA sees deterrence more like intra-war deterrence or escalation control than “minimum deterrence” as it is seen in the West. As one would expect, the Chinese White Paper does not explain what constitutes the precise role of nuclear forces in “local war.” But the fact that nuclear forces are discussed in the context of “local war” suggests a continuing change in China’s perception of the role of nuclear weapons. There are indications that the PLA will increasingly push for the first use of nuclear weapons in some circumstances as part of

its “active defense.” The trend in PRC military thinking is evolving toward the view that the decision on the use of nuclear weapons would be made in light of the tactical situation and equities involved.

As Michael Pillsbury observes: “The January 2000 issue of Military Digest featured an article by Chinese [military analyst] He Ling on deterrence which included the comment that ‘limited and effective nuclear strikes can be assassin’s mace weapons to contain the enemy’.”⁶⁴ Chinese weapons of all types aimed at defeating a superior opponent, particularly the United States, are generally referred to in China as “assassin’s mace” programs. The “assassin’s mace” concept involves defeating the superior with the inferior although we see more emphasis, as time passes, on really high performance weapons. Chinese military writer Sun Lihua, writing in July 2002, linked “assassin’s mace” to nuclear weapons: “Tests of atomic and hydrogen bombs, and successful launches of submarine launched and mobile strategic missiles, shows that our Army has ‘assassin’s mace’ to use in overcoming the enemy and achieving victory.”⁶⁵

To understand Chinese nuclear strategy it is necessary to strip away the propaganda and look at what their military leadership says that is inconsistent with the propaganda. When one does this, what remains, as Professor Alastair Johnson wrote in 1995, is “a deeply rooted *realpolitik* world view that nuclear weapons buy soft power (international status and influence) and hard power (military operational power)”⁶⁶ (Emphasis on the original). A 2001 article by Lt. General Zhao Xijun, Deputy Commander of the Second Artillery, provides an excellent example of PRC doublespeak and nuclear *realpolitik*. Zhao Xijun gives lip service to the propaganda as he must. For example, he says, “China opposes nuclear threats in any form” but at the same time says that, “Nuclear weapons have a direct influence on the scale of the war, on the combat measures used, on the conditions of a ceasefire, etc.”⁶⁷ China opposes the “development of nuclear forces,” but at the same time, “To deter hegemonistic aggression [read the United States], a developing country should...develop necessary strategic deterrence forces and work hard to improve its defensive combat operations capabilities for high-tech conditions.”⁶⁸ China supports no first use, “But if the opponent persists in having his own way and refused to stop his hostile actions, then the other side must select the right time and an appropriate objective and execute high-intensity deterrent actions against the enemy, to include a warning strike.”⁶⁹ Moreover, the logic of the military strategy of the United States which included counterforce attacks against adversary nuclear forces “is not without merit.”⁷⁰ [this transitions to a new source but implies you’re still quoting Xijun. Similarly, while he recites the propaganda about “no first use” and “self-defense,” it is not the “minimum deterrence” viewpoint that prevails but, rather, old-fashioned peace through firepower superiority. Similarly, Maj Gen Wu Jiango has written: “The stronger our national defense muscle and the sufficient are preparations for high-tech war under the condition of nuclear deterrence, the smaller the possibility of the breakout of nuclear wars.”⁷¹

China's clear interest in its ability to control escalation in local wars means that China does not see nuclear weapons as merely instruments of city destruction. As David Shambaugh wrote, "China anticipates counterforce/counter value counterattack that can destroy the enemy's important strategic targets of political, economic and military centers."⁷² Lonnie H. Henley, who would become a Deputy National Intelligence Officer, has pointed out that China selects targets carefully and seeks to avoid, "Inflicting excessive damage on the enemy, especially civilian populations or vital infrastructure, [because this] will stir up intense resentment and bring into played political factors that make it more difficult to maintain control of the situation."⁷³ In the words of Chinese Major General Lu Haozhong, "Even when a war is hard to avoid, they ["wise statesmen and strategists"] strive to keep it within a certain scope and intensity."⁷⁴ This is much closer to Western concepts of interwar deterrence and escalation control than it is to Western "minimum deterrence."

According David Shambaugh, the PRC has a "more diversified targeting doctrine that includes both countervalue and counterforce targets."⁷⁵ Yan Guoqun, writing in a Chinese Communist Party organ, stated that, "...the Chinese Government and military have never designated or declared enemy population or political centers as primary targets of nuclear strikes."⁷⁶ China rejects pure mutual assured destruction targeting because of the basic irrationality of MAD theory as an approach to war and deterrence, concepts that they see through the prism of *realpolitik* and Taiwan. With its current forces, China cannot threaten a disarming strategic first strike against the United States but it can wage regional nuclear war. A Chinese government official, who asked not to be identified, told an underground Chinese publication, *Zhemgming*, that China targeted "soft targets" because they were "hard to defend [such] as concentrated population centers of economy **and ordinary military power**."⁷⁷ (Emphasis added). Attacks on soft targets were necessary due to the technical limitations of Chinese missiles in 1994, but this is unlikely to be the case in the future as Chinese counterforce capability increases. It is interesting that Chinese Major General Yang Huan, who had served as Deputy Commander of the Second Artillery, established as one of his three priorities for improvement to China's nuclear forces something that only made sense if the objective was counterforce capability:

Improve the striking ability of strategic nuclear weapons. Accuracy and power are chief factors used to judge weapon striking power. To increase the credibility of limited nuclear deterrence, we should work to improve accuracy, and our new generation of strategic weaponry should be of higher precision.⁷⁸

The focus of many Western analysts on China's supposed "no first use" policy tends to blind them to Chinese counterforce nuclear weapons doctrine. In China, reported the *Kanwa Defense Review*, "[the] 'active defence' concept has become the theoretical basis for the development and upgrading of nuclear weapons."⁷⁹ In December 2004 the Chinese Defense Ministry stated that, "the scale, composition and development of China's development of China's nuclear force are in line with China's military strategy of

active defense.⁸⁰ (Emphasis added). What is this “active defense” which determined the “scale, composition and development” of China’s nuclear weapons? It is a war fighting doctrine. According to China’s Defense Ministry:

Strategically, China pursues a principle featuring defensive operations, self-defense, and gaining mastery by striking only after the enemy has struck. Such defense combines efforts to deter war with preparations to win self-defense wars in time of peace, and strategic defense with operational and tactical offensive operations in time of war. While basing themselves on existing weaponry and carrying forward their fine traditions, China's armed forces seek to adapt to profound changes in the world's military sphere, and prepare for defensive operations under modern, especially high-tech, conditions.⁸¹ (Emphasis added) added)

Another definition of active defense can be gleaned via inference from Chen Wei, Deputy Professor and Doctor of Law at the Faculty of International Relations of the PLA International Relations College. He characterized the newly announced Russian military doctrine, with increased emphasis on nuclear weapons and the adoption of a low nuclear weapons use threshold as “active defense.” He continued, “According to the new military doctrine, Russia has abandoned the ‘purely defensive’ military guiding thinking and replaced it with the guiding thinking of active defense. Given that its conventional military forces are in a relatively perilous state, Russia has further enhanced the status of the nuclear deterrent in its military strategy.”⁸²

Under Chinese strategy, nuclear and conventional weapons are integrated into a common strategy to achieve Chinese objectives—one that can utilize threats and coercion to achieve its objectives. In October 2001, Lt. General Zhao Xijun, Deputy Commander of the Second Artillery, wrote that, “nuclear and conventional deterrence forces must be coordinated with each other to form an integrated deterrence posture.”⁸³ These forces must create favorable situations at designated times and places in which their sides integrated deterrence dominated their opponent. Only in this way can organic unity among forces, decisions, and information be achieved, thus increasing the credibility and effectiveness of deterrence.”⁸⁴ The General recognizes that deterrence is psychological and that targets must be carefully chosen to deliver the right message and control escalation. There must be “meticulous planning, organization, and execution with regard to targets, objectives, methods, intensity.”⁸⁵ In support of his thesis that nuclear weapons, if properly used, allow victory without war, General Xinjun described approvingly how during the first Gulf War the U.S. used the nuclear first use threat against Iraq’s possible use of chemical and biological weapons, something that is obviously inconsistent with “no first use.” He wrote: “In order to prevent any further escalation of the scale of the war and intimidate Iraq to prevent it using biochemical weapons, the multinational force deployed powerful nuclear deterrence forces on the periphery of Iraq. Thus it used nuclear weapons to deal with Iraq’s biochemical weapons. At the same time, the United States and Great Britain stressed repeatedly and openly that if Iraq used biochemical weapons, the multinational forces would

retaliate resolutely with nuclear weapons. In the end, Iraq was compelled by powerful deterrence from the United States and Great Britain to abandon its intent to use biochemical weapons.”⁸⁶ No Western advocate of minimum deterrence and “no first use” would sustain such a position. The emphasis in General Xinjun’s writing was on the manipulation of threats, including nuclear threats, to win.

This perspective on Beijing’s military strategy is not unique. Russian military analysts have also emphasized the nuclear warfighting aspect of Chinese strategy. For example, *Avia Panorama*, a Russian aviation journal, reported that, “The PLA Air Force military leadership has developed plans for the participation of aviation in delivery of ‘surgical strikes’ on the territories of countries using terrorists, and in combat operations involving the use of tactical nuclear weapons.”⁸⁷ Russian journalist Aristarkh Ivanov observed that, “The military operations by NATO forces in Yugoslavia reinforced China’s certitude of the need to employ a tactic of ‘active defense,’ which includes preemptive air strikes on an enemy, these to include bombing of important economic, political and military centers and facilities, particularly the air bases where the enemy’s strategic bombers are based. In the view of the PRC’s air force command, the Chinese Air Force should be prepared to launch preemptive strikes as soon as the country’s political leadership makes the decision to do so.”⁸⁸

There are many reports in the Hong Kong press, both PRC government and privately-owned, that the PRC may use nuclear weapons, if necessary, in a campaign to conquer Taiwan. For example, an article in a PRC-owned Hong Kong newspaper stated that, “some PRC generals hold the view that when China has no choice but to use nuclear weapons to resolve the Taiwan issue and when international crises approach, it must play the nuclear card adequately and well.”⁸⁹ According to the *Kanwa Defense Review*, “China has for a number of times attempted to impose nuclear deterrence against the US and Taiwan both strategically and tactically.”⁹⁰ Top Chinese communist leaders reportedly believe that any war over Taiwan will go nuclear. Hong Kong journalist Kuan Chieh reports that China’s Central Military Commission of the Politburo believes that “a major obstacle to the ‘Liberation of Taiwan’ is the involvement of the U.S. military including the “use of strategic and tactical nuclear weapons to retaliate for the losses sustained by the US troops in the outbreak of a limited war.” While he reports that the members are divided on the advisability of starting a war, they agreed to “step up and expedite deployment and preparation for a military solution.”⁹¹

That “military solution” may involve tactical nuclear weapons. Chin Shao-yang, writing in a Hong Kong-based PRC government-owned internet publication, stated that, “the PLA focuses on practicing attacks on carriers and that weapons intended for use against U.S. carriers included supersonic anti-ship missiles, submarines, aircraft and **tactical nuclear weapons**.”⁹² (Emphasis added). In a 1999 article on how to invade Taiwan, Su Hngyu wrote that, “First, it is necessary to have air control and sea supremacy so as to destroy the enemy’s aircraft on the ground and his warships in their harbors, and these are the most ideal forms of air and naval operations; **using tactical**

nuclear weapons in the early period of fighting can easily achieve this purpose.”⁹³
(Emphasis added)

Dr. Yuo Ji, writing in 1999, reported that, “PLA strategists...[believe] that in the **future nuclear warfare would be most likely be used at the theatre level and against military targets**. PLA war games are therefore played for achieving battlefield victory rather than destruction of the world.” (Emphasis added). The article also asserts that Chinese planning was patterned after NATO Cold War strategy and involves neutron bombs and nuclear artillery. He concludes that Chinese strategy has shifted, “...from people’s war to **people’s nuclear war** under modern conditions in the late 1970s....”⁹⁴
(Emphasis added).

The declassified *National Intelligence Daily* reports that one or more of the last Chinese nuclear tests conducted in the 1990s involved the development of nuclear artillery that may very well have been related to preparations for a war over Taiwan since the threat of a Soviet invasion was gone. An opposed invasion over about 100 miles of ocean is extremely difficult. The PLA may see nuclear weapons as a way of assuring the success of an invasion, if the conventional attack seems likely to fail. While China has achieved military superiority over Taiwan, there are clearly suspect elements in Chinese descriptions of their invasion plans against Taiwan: “The mainland is prepared to use 30,000 naval vessels and civilian ships and 1 million troops; in the situation where the United States and Japan may be involved in the fighting in the Taiwan Strait, the mainland estimates that 400,000 may be sacrificed at the worst and that 500,000 to 600,000 troops will successfully land in Taiwan.”⁹⁵

It is noteworthy that the increasing role played by nuclear weapons in Chinese strategy has occurred while most Western scholars continue to characterize the PRC’s approach as “minimum deterrence.” Chinese war plans seem to relate to the quantity and quality of nuclear weapons available rather than any Western minimum deterrence concepts. We can expect this trend to continue as the nuclear balance shifts in the Chinese favor. As the Pentagon’s 2006 report on Chinese military power notes: “it remains to be seen, however, how the introduction of more capable and survivable nuclear systems in greater numbers, will shape the terms of this debate or affect Beijing thinking about its nuclear option in the future.”⁹⁶

Chinese Nuclear Weapons

After its first test of a nuclear weapon in 1964, China advanced fairly rapidly in nuclear weapons technology. In January 1969, Secretary of Defense Clark Clifford informed the Congress that:

From October 1964 through December 1967 they [the PRC] detonated seven nuclear devices, including three thermonuclear and one low yield device delivered by a missile. (On December 27, 1968, the Chinese communists detonated their eighth nuclear device.) This test was similar to the sixth, conducted in June 1967. Both were apparently thermonuclear devices with yields of about 3 MT which were air dropped.⁹⁷

According to China expert Brad Roberts, through 1982 there was “a steady accretion of deployed weapons systems such that China was able to threaten to attack by nuclear weapons all of its potential adversaries – and, in addition, to threaten U.S. military bases in the Western Pacific and the allies that hosted them.”⁹⁸ China’s nuclear weapons complex has reflected this buildup.

Warhead Development and Deployment

The principal nuclear weapons organization, the Chinese Academy of Engineering’s Institute of Physics, employs 8,500 professional technical staff members.⁹⁹ Yu Min, described by *Xinhua* as the “architect of the country’s first H-bomb” claims that China’s key nuclear capabilities are “on a par with the United States and the former Soviet Union.”¹⁰⁰ Xue Bencheng, one of the most important scientists involved in the development of China’s neutron bomb, stated that the July 1996 Chinese nuclear test was “a great spanning leap” because it solved the problem of nuclear weapons miniaturization.¹⁰¹ According to a report in the Hong Kong press, China’s Central Military Commission Vice Chairman Zhan Wannian told the Commission that there will be “further upgrading, and further development [of Chinese nuclear weapons] from 2001 to 2009.”¹⁰²

China is today heavily invested in the process of modernizing its strategic forces. Viktor Mikhaylov, while he was Russia’s first Deputy Minister for Atomic Energy, stated that, “China is very closed in its weapons work and the scope of its nuclear efforts can be judged from a number of indirect signs. But one needs have no doubt that such efforts

are significant and dynamic.”¹⁰³ Retired Russian Major General Valdimir Belous in July 2006 wrote that, “China is transforming itself into one of the 21st Century’s most influence centers of power, something that is to a considerable degree facilitated by the reequipping of its Armed Forces and the buildup of its nuclear missile potential, which in terms of total quantity of warheads has surpassed the equivalent indicators of France and Great Britain.”¹⁰⁴ According to Vyacheslav Baskakov and Aleksandr Gorshkov, Russian military journalists:

Specifically, it [China] will succeed in making the shift from its current megaton-class nuclear ordinance to a level of hundreds and tens of kilotons, thereby increasing the effectiveness of available forces and weapons, flexibility of use in various circumstances and combat situations on both a strategic and tactical level.

For example, it is believed that the yield of the strategic nuclear warheads with which Chinese ICBM's are now equipped will decrease from 1-4 megatons to 250-650 kilotons each. The yield of tactical and operational-tactical nuclear warheads, according to expert assessments, will total from 90-100 kilotons each.¹⁰⁵

There are convincing reports that this recent progress has not been entirely indigenous. For example, the House Select Committee on U.S. National Security and Military Commercial Concerns with the People's Republic of China, generally known as the Cox Committee, concluded that:

The People's Republic of China (PRC) has stolen classified information on all of the United States' most advanced thermonuclear warheads, and several of the associated reentry vehicles. These thefts are the result of an intelligence collection program spanning two decades, and continuing to the present. The PRC intelligence collection program included espionage, review of unclassified publications, and extensive interactions with scientists from the Department of Energy's national weapons laboratories.

The stolen U.S. secrets have helped the PRC fabricate and successfully test modern strategic thermonuclear weapons. The stolen information includes classified information on seven U.S. thermonuclear warheads, including every currently deployed thermonuclear warhead in the U.S. intercontinental ballistic missile arsenal. Together, these include the W-88 Trident D-5 thermonuclear warhead, and the W-56 Minuteman II, the W-62 Minuteman III, the W-70 Lance, the W-76 Trident C-4, the W-78 Minuteman III Mark 12A, and the W-87 Peacekeeper thermonuclear warheads. The stolen information also includes classified design information for an enhanced radiation weapon (commonly known as the 'neutron bomb')....¹⁰⁶

The Cox report continued that there was additional PRC espionage in the mid-1990s that included information about “the W-70 warhead [that] contains elements that may be

used either as a strategic thermonuclear weapon, or as an enhanced radiation weapon ('neutron bomb'). The PRC subsequently tested the neutron bomb...."¹⁰⁷

The Central Intelligence Agency released the following assessment of Chinese nuclear espionage:

- China obtained by espionage classified US nuclear weapons information that probably accelerated its program to develop future nuclear weapons. This collection program allowed China to focus successfully down critical paths and avoid less promising approaches to nuclear weapon designs.
- China obtained at least basic design information on several modern US nuclear reentry vehicles, including the Trident II (W88).
- China also obtained information on a variety of US weapon design concepts and weaponization features, including those of the neutron bomb.
- We cannot determine the full extent of weapon information obtained. For example, we do not know whether any weapon design documentation or blueprints were acquired.
- We believe it is more likely that the Chinese used US design information to inform their own program than to replicate US weapon designs."¹⁰⁸

China reacted very strongly to the Cox report, claiming, inaccurately, that the nuclear weapons design information had been declassified by the United States and also stating that the PRC had tested an enhanced radiation weapon in the 1980s.¹⁰⁹ In an interview in June 2001, Xue Bencheng, chief engineer of the PRC neutron bomb, also claimed that the July 1996 Chinese nuclear test resulted in "a great spanning leap," a significant breakthrough in nuclear weapons technology which solved the problem of miniaturization and reached the same level of technology as the advanced nuclear nations.¹¹⁰

Whatever the source, miniaturization has enabled China to develop a number of warhead options. China is reported to have "tactical nuclear warheads, theater nuclear warheads, and nuclear mines."¹¹¹ Hong Kong military commentator Ma Ting-sheng has even suggested on Hong Kong television that China would transport nuclear bombs into the United States "before a war breaks out."¹¹²

A number of heavily-redacted CIA intelligence reports on China's nuclear weapons testing have been declassified. They include details which suggest a broad interest in developing nuclear weapons for tactical platforms, modernizing and replacing older warhead technologies, and building up a body of test data to continue the process in the context of a Comprehensive Test Ban Treaty (CTBT).

What Chinese testing has occurred since the announced end of China's nuclear testing in 1996 is not certain. The Cox reported concluded that "nuclear tests related to development of the PRC's next generation of thermonuclear warheads may be continuing at the PRC test site at Lop Non Nor."¹¹³ In May 2006 *Chinese Defense Today* also reported possible "low yield nuclear tests" after the declared end of testing.¹¹⁴

The Stockpile Size

The precise number of Chinese nuclear weapons is a closely guarded state secret. The assertion that China has 200 warheads is actually an invention of the Western press and academia based on inference from a 2004 claim by the PRC that it had conducted the fewest nuclear tests and had the smallest arsenal among the nuclear powers.¹¹⁵ Other estimates of China's nuclear stockpile dramatically differ. According to Lieutenant General Michael Maples, Director of the Defense Intelligence Agency, "China currently has more than 100 nuclear warheads."¹¹⁶ Maple's statement was in 2006, however, a declassified 1984 DIA estimate of the Chinese nuclear weapons stockpile put it, "Between 150 and 160 warheads."¹¹⁷ Many estimates are much higher. A November 1997 Congressional Research Service report by Jonathan Medalia, citing a report by the National Resources Defense Council, concluded that "...China has perhaps 300 deployed nuclear weapons and 150 tactical nuclear weapons that are available but not deployed, and that the stockpile could actually be two or three times larger."¹¹⁸ A study by the Carnegie Institute estimated that China had 450 nuclear weapons.¹¹⁹ Other estimates span the range from 200 to 2000.¹²⁰

In evaluating the wide range of estimates of the number of Chinese nuclear weapons Dr. You Ji observed in 1999: "The lower end of the estimates, 200, is certainly too low.... A *Rand* report also claims that by 2003 China will possess between 600 and 1500 nuclear warheads. This higher end of the estimates may be as unrealistic as the lower end, especially if one thinks in terms of warheads deliverable after a first strike."¹²¹ DIA estimated that China had 150-160 nuclear weapons as far back as 1984 and "the number of warheads is not restricted by Chinese materials production, but on what the Chinese perceive their needs to be."¹²²

Tactical Nuclear Weapons and Electromagnetic Pulse (EMP)

There is a tendency in some Western literature on Chinese nuclear capability to downplay the PRC's development of tactical nuclear weapons, particularly low yield tactical weapons. Yet, according to David Shambaugh, Chinese military doctrine "envisions use of tactical nuclear weapons in a battlefield environment – either airbursts or fired for artillery. Since the mid-1980s, PLA forces training in north China (Hua Bei)

have simulated such conditions.” He also notes that tactical nuclear weapons are important because China “envisions offensive limited nuclear war-fighting....at a regional, intermediate-range, theater level.”¹²³ There are Chinese generals who openly extol the military utility of tactical nuclear weapons. One of them, Lt. General Mi Zhenyu, wrote that a:

First strike has always been the combat phase that militarists attach greatest importance to.... Field tactical nuclear weapons are an effective antipersonnel weapon....This weapon not only has the superior tactical technical capabilities of long range, fast firing rate, high accuracy, and great destructive power, but it could also be used as a surprise weapon in major field operations to strive for and grasp the field initiative. In its tactical use, in an offensive situation it could directly break up the effective fire power of the enemy and destroy the defense points of the enemy from a distance, or it could attack the depth defenses of the enemy and cut off the enemy's retreat. In a defensive situation it could attack the enemy rear echelon troops, stop the continuous assault of the enemy, and defend against the enemy making a direct deep push. Coordinated and complementary field tactical nuclear missiles used with various other conventional weapons systems could give the military greater military benefits and battlefield power. In a situation where, temporarily, no global wars are being fought, localized wars will be the major forms of combat for a period of time. In localized wars, the possible use of field tactical nuclear weapons by the enemy cannot be dismissed. Thus, China appropriately and within reason must develop field tactical nuclear weapons in order to further break down the various kind of nuclear threats of the hegemonists and restrain the use of field tactical nuclear weapons by the enemy.¹²⁴

The Chinese arsenal of tactical nuclear weapons may be very large—400—according to a 2002 estimate by Russian analyst Dr. Nikolai Sokov.¹²⁵ There are also reports of Chinese development of low yield nuclear weapons or advanced types of tactical nuclear weapons. Writing in 1999 in a Hong Kong publication, Tsao Kuo-chung reported that a “Chinese military source” disclosed that China had developed “miniaturized nuclear warheads [for] ‘non-strategic nuclear weapons’.” According to the source, by the late 1980s China could deliver “‘miniature and super-miniature nuclear warheads,’ which are mainly atom bombs....The destructive power of the miniature and super-miniature atom bomb is about that of 10 to 100 tons of TNT....Beijing can deliver ‘fixed-point attacks’ on any military target and minimize damage to non-military objects.”¹²⁶ In the year 2000, Chinese Major General Wu Jianguo, a former Associate Professor and Dean of the Chinese Antichemical Warfare Academy, gave “several proposals for new kinds of Chinese nuclear weapons, including a ground-penetrating nuclear weapons with an equivalent of 10 tons of TNT, an antimissile nuclear weapon with an equivalent of 100 tons of TNT, and a ground-to-ground and air-to-ground nuclear weapon with an equivalent of 1,000 tons of TNT.”¹²⁷ Qing Tong, writing in 2002 in a Hong Kong journal which reportedly has close ties to the PRC military, stated that, “China has achieved progress by leaps and bounds in its tactical nuclear weapons,

making nuclear weapons practical and facilitating their use in future high-tech, local wars.¹²⁸ The Chinese DF-15 missile reportedly carries a neutron bomb.¹²⁹ As noted above, China has officially announced that it has tested a neutron bomb and the declassified CIA report cited above noted the possible Chinese development of gun type nuclear artillery shell. Apparently, the Russian military also believes that “the possible makeup of the nuclear reserve [of China] consists of tactical missile warheads and artillery rounds.”¹³⁰ Another Russian analyst, Colonel Viktor V. Stefashin, a professor at the Academy of Military Sciences, linked the 1988 Chinese test of an enhanced radiation weapon to the development “of a very low yield neutron weapon and about creation (or work on creation) of nuclear artillery.” Stefashin reported that the 1988 Chinese test of a neutron warhead had a yield of 1-5 kilotons.¹³¹ Additionally, one senior U.S. intelligence official, Lt. General Michael Maples, has raised concern about the ASAT capability of China’s nuclear ballistic missiles.¹³²

There is also concern about Chinese preparations for a nuclear electromagnetic pulse attack on Taiwan, the United States and Japan as part of its strategy to facilitate the conquest of Taiwan. The Congressional Commission on the Threat to the United States from Electromagnetic Pulse reported that, “China and Russia have considered limited nuclear attack options that, unlike Cold War plans, employ EMP as the primary or sole means of attack.”¹³³ The 2005 Pentagon report on Chinese military power observed that, “Some PLA theorists are aware of the electromagnetic effect of using a high-altitude electromagnetic pulse (HEMP), and might consider using HEMP in an unconventional attack, believing that the United States and other nations would not consider it as a use of force and a crossing of the nuclear threshold.”¹³⁴ A Congressional Research Service report by Ronald O’Rourke concluded that a U.S. naval force coming to the aid of Taiwan against a Chinese attack would have to be prepared for use of nuclear weapons and EMP because, “China could also use a nuclear-armed ballistic missile to detonate a nuclear warhead in the atmosphere to create a high-altitude electromagnetic pulse (EMP) intended to temporarily or permanently disable the electronic circuits of U.S. or other civilian and military electronic systems.”¹³⁵

These concerns are shared by foreign analysts. A Taiwanese defense publication, *Ch’uan-ch’iu Fang-wei Tsa-chic*, pointed out the risk of Chinese nuclear EMP attack against Taiwan’s aircraft early warning system.¹³⁶ Chung Chien, writing in the *Taiwan Defense Review*, outlines the threat posed by EMP attack using very low yield nuclear devices:

The PLA now possesses a matured vehicle carrying low-yield nuclear weapon to detonate at the appropriate height, that is the battle-tested, combat-ready Dong Feng-15 (M-9 for export version) short range ballistic missile (SRBM)....The nuclear EMP attack creates an extremely high electric field of 10,000 volts per meter, covering up to 100 km from ground zero. The sudden onset of electric field can cause permanent damage on electronic devices containing micro memory chip, logic

circuit, integrated circuit, diode, transistor, and amplifier as well, virtually shut down all C4ISR [command, control, computers, communications, intelligence, surveillance, and reconnaissance] equipment used by both military and civilian communities.... A tandem nuclear EMP attack over Taiwan, one in north and one in south, could knock out...[the critical electronic systems] system island wide.¹³⁷

An October 2003 report on *China Military Strength* by Taiwan's Democratic Progressive Party goes further asserting that China is "engaged in quantitative production and deployment of electro-magnetic pulse (EMP) [proceeding three words in English] micro...nuclear warheads."¹³⁸ According to an official at the Taiwanese Defense Ministry, the Chinese M-11 missile "can fire a variety of warheads ranging from nuclear and chemical warheads to electromagnetic pulse warheads."¹³⁹ In May 2001 Lin Chong, Vice Chairman of Taiwan's Mainland Affairs Council, warned the public to "pay special attention to the so-called EMP (electronic magnetic pulse) tactics." He pointed out that, "In an English language article published in 1992, Lin pointed out that Beijing is seeking to develop small nuclear warheads that can be detonated in the skies above Taiwan."¹⁴⁰ Wang Chuo-chung writing in November 2003 stated that China would have military superiority over Taiwan in 2007 and that sources, presumably in the Taiwanese government, "claimed that by then, the [PRC] military will have the capacity to launch electromagnetic pulse attacks against Taiwan. It was said that pulse attacks are sufficient to paralyze 65 percent of Taiwan's forces."¹⁴¹ A report published on a Hong Kong website owned by China's official news agency quoted an unidentified Chinese official as saying that China might not only stage two EMP attacks against Taiwan but also might "conduct an announced nuclear EMP 'test' 1,200 km east of Taiwan to keep US forces at bay."¹⁴² Reportedly the Taiwanese military takes the threat of EMP attack so seriously that it has EMP hardened its military electronics.¹⁴³

China expert Dr. Michael Pillsbury has linked nuclear EMP attack to the Chinese "assassin's mace" concept of defeating the superior with the inferior. He stated before the U.S.-China Security Review Commission in August 2001 that the Chinese "write a lot about EMP effects that could be achieved in an assassin's mace weapon on U.S. forces because the U.S. depends so heavily on, not vacuum tubes, which tend to be less affected, but on circuit boards." According to Dr. Pillsbury, high altitude EMP weapons are seen "as a natural enemy of more technological advanced militaries and an 'electronic Assassin's Mace'."¹⁴⁴ Pillsbury has elsewhere noted that the March 2000 issue of China's *Military Digest* featured an article by Xian Fengli, Lu Young and Ming Xiang which argued that "EMP warheads will make it much easier to cross the nuclear threshold."¹⁴⁵ The designers of the Chinese DF-11 SRBM "have demonstrated the most interest in HEMP [high altitude nuclear EMP] weapons."¹⁴⁶ Pillsbury observed that Chinese military writings on EMP are often ignored in the West because of the technical nature Chinese language on EMP and the fact that the technical language does normally appear in English-Chinese dictionaries. However, the Chinese may have decided to advertise their capabilities. According to the *Wall Street Journal*, "China and Russia have the capability to launch EMP weapons – and have let us know it. China

recently published an article on EMP in a Chinese-language technical journal. To make sure the U.S. got the message, the article appeared in English.”¹⁴⁷

Chinese Nuclear Delivery Capabilities

The PRC reveals nothing specific about its nuclear modernization and expansion plans, merely stating that it is increasing its deterrent force by deploying mobile nuclear missiles and nuclear submarine-launched ballistic missiles. The head of the Second Artillery, China's strategic missile force, has been made a member of China's ruling Central Military Commission, suggesting the prominence with which China's leaders view that capability.¹⁴⁸ Until the start of China's current buildup, the PRC had very slowly developed its strategic strike capabilities. Ironically, this probably reflected the Chinese fear of a Soviet preemptive nuclear strike against its nuclear capabilities, a very real concern given China's very limited economic and technical capability. The Chinese test of an atomic bomb in 1964 came at a time of strained and worsening Sino-Soviet relations. After a series of border clashes in August and September of 1969, the Soviets discussed the possibility of a preemptive nuclear strike against China with both the United States and European Communist parties.¹⁴⁹ Soviet Defense Minister Andrei Grechko apparently proposed a plan to “get rid of the Chinese once and for all” and the KGB debated whether to transfer from the United States to China the title of the “main adversary.” In their view, Mao responded to this “by playing ‘the United States card’.”¹⁵⁰ One of the ironies of history is that the change in the relationship between China and the United States never significantly increased the threat faced by the Soviet Union, but rather, in the long term, resulted in a surge in the Chinese threat to the United States, particularly after 1995. China took advantage of the new relationship with the United States to build up its economy rather than maximize its military capability. The Chinese military buildup actually began after the demise of the Soviet Union which opened the opportunity to acquire advanced Russian weapons. The Chinese military budget increased by a factor of at least four after 1994.¹⁵¹

Ballistic Missiles

Chinese nuclear weapons initially were far more of a threat to the Soviet Union than to the United States. After the first MRBM became operational in 1966, China slowly developed and deployed intermediate and intercontinental range ballistic missiles with multi-megaton warheads.¹⁵² In 1973, Secretary of Defense Elliot Richardson stated that, “a PRC strategic nuclear threat to the United States currently does not exist” and was not expected until the end of the decade and that the longest range Chinese

system was a copy of the Russian Tu-16 medium bomber.¹⁵³ Chinese strategic and theater forces then consisted of CSS-1 and CSS-2 missiles. By 1981 the CSS-3 and CSS-4 ICBMs became operational.¹⁵⁴ The growth of Chinese strategic nuclear missile capability was so slow that it was essentially ignored by all U.S. Secretaries of Defense in their annual reports to the Congress from the late 1970s through the 1990s—despite growing evidence that China had shifted its military strategy and had started a major missile buildup.

That situation began to change dramatically in the 1990s and was gradually recognized in Washington.¹⁵⁵ In 1999, Secretary of Defense William Cohen broke with previous policy and stated that “China has the potential to assert its military power in Asia. The People’s Liberation Army continues to modernize and increase its capability. China has a strategic nuclear arsenal that, while not large, could reach the continental United States.”¹⁵⁶ Writing in 1999, Dr. You Ji stated that China was spending 12-15% of its total military budget and 20% of its procurement budget on the strategic missile force and that, “Now it is almost certain that the PLA’s nuclear arm will be further strengthened, even though other nuclear powers have begun to trim their nuclear arsenals and force levels.”¹⁵⁷

In December 2001 the National Intelligence Council published an unclassified summary of the National Intelligence Estimate (NIE) entitled *Foreign Missile Development and Ballistic Missile Threats Through 2015*. It warned about the impending growth of Chinese nuclear forces from current levels which included “about 20 CSS-4 silo-based missiles” that could attack the United States, “about a half dozen CSS-3 ICBMs” that were almost certainly targeted against Russia and targets in Asia and medium range SMBM, the CSS-NX-3/JL-1 to a force which by 2015 will be composed of “mobile solid-propellant ICBMs.” The National Intelligence Council report also noted that China could develop a multiple RV system for the CSS-4 ICBM in a few years but that it would be costly and difficult to MIRV Chinese solid fuel mobile ICBMs and SLBMs. It projected 75-100 Chinese strategic nuclear warheads within 15 years. The report also stated that the IC projected a 2005 SRBM force “of several hundred missiles.”¹⁵⁸ This turned out to be only about one half of what the Chinese actually had in 2005. According to the Pentagon’s early 2005 report on Chinese military power, China had deployed 650 to 730.¹⁵⁹ Errors of this magnitude in force projection over only a three period are usually the result of inaccurate assessments of the underlying motives behind the programs in question. If so, it could mean that projections of China’s strategic nuclear buildup could be similarly understated.

The U.S. Department of Defense has not alone in suggesting there will be a major increase in Chinese nuclear capabilities. The November 2006 report of the Congressional U.S.-China Economic and Security Review Commission noted that, “China continues to make significant strides in modernizing and enlarging its missile forces. Currently there are at least 10 types of ballistic missile systems that are either operational or under development.”¹⁶⁰

The buildup of a Chinese nuclear missile strike capability has been acknowledged by the Chinese government. Chinese President Hu Jintao in June 2006 declared that, "To establish a strategic missile armed force and buildup the Second Artillery is a major strategic decision of the Communist Party Central Committee and the Central Military Commission."¹⁶¹

China is clearly pursuing the most ambitious missile program in the world today. The current Chinese program is closer in some respects to the program of the former Soviet Union than to any nation in the post-Cold War world where the United States, Britain, France and Russia have actually reduced their strategic capabilities. China is not only developing a large number of different missiles types, but it is also building a large numbers of missiles. According to its official news agency *Xinhua*, China is "continually improving 'dual deterrence' and 'dual combat'¹⁶² capabilities of its missile force" and "today's strategic missile force can conduct a missile launch many times faster than in the past. Today's strategic missile force possesses an accurate, mobile strategic counterattack capability."¹⁶³ In October 2006 Russian state-owned television revealed that Russia sold advanced laser gyroscope guidance technology "to China including technical documentation and very advanced equipment."¹⁶⁴ According to the Pentagon's report on *The Military Power of the People's Republic of China 2006*:

Besides expanding China's inventory of nuclear ICBMs, the new mobile DF-31A ICBMs¹⁶⁵ will make China's ICBM force more survivable. The JL-2 SLBM deployed aboard the JIN-class (type 094) SSBN will provide China with an additional, survivable nuclear option. China will deploy several new conventional and nuclear variants of MRBMs and IRBMs for regional contingencies and to augment its long-range missile forces. China is also developing air- and ground-launched cruise missiles that could have a nuclear capability.¹⁶⁶

China's new missile capability is being given precision accuracy. China publicly talks about the "strengthening and improvement and development of missile weapons" with "both nuclear and conventional capabilities to cover different ranges, and to significantly increase firepower and efficiency."¹⁶⁷

Chinese missile deployments within range of Taiwan are reported to reflect the dual emphasis on quantity and quality. The Taiwan Defense Ministry agreed with the PRC assessment. In March 2006 Lieutenant Colonel Chen Chang-hua told the press that:

Now they have deployed 784 ballistic missiles with the entire island coming within their range, with the precision margin narrowing from 600 meters (1,980 feet) to 50 meters.

Armed with the missiles, they can launch five waves of intensive bombings for 10 hours' targeting the island's military commands, communications centers, airports and harbors....¹⁶⁸

The Pentagon's 2006 report on the Chinese military also warned about the Chinese mass production of precision-guided missiles. It stated that, "According to DIA estimates as of October 2006, China's SRBM force totaled some 900 missiles, increasing at an average rate of more than 100 missiles per year."¹⁶⁹ In January 2007 the Taiwanese Defense Ministry revealed that, "As of now the Chinese communists have stockpiled more than 100 cruise missiles, placing the whole of Taiwan under their range."¹⁷⁰ China is developing a first and second generation land attack cruise missile which will have conventional and could be given nuclear capabilities.¹⁷¹ The new medium and intermediate-range missiles with conventional and, possibly, nuclear warheads will obviously be precision-guided since they would have the capability to be effective with conventional warheads. According to the Claremont Institute, "In terms of overall accuracy improvements, China is incorporating Global Positioning System (GPS) updates into ballistic missile navigation systems, for example, on guidance sets for the DF-15. China also may be working on a new radar-based terminal guidance system for the DF-21 MRBM. This radar-based guidance system would be similar to that employed on the highly-accurate and now defunct U.S. Pershing II missile, all of which were destroyed under the 1987 U.S.-Soviet Intermediate Nuclear Forces (INF) Treaty. If this proves to be as effective as the Pershing II, such a modification could potentially give the DF-21 an accuracy in the 50 m/164 ft. circular error probable (CEP) range."¹⁷² Similar conclusions have been voiced by Chinese sources. Writing in a PRC- owned publication in Hong Kong, Tien Ping stated that, "the Dongfeng-15B missile which equips Second Artillery has a range of 900 to 1,200 km, with an error of about 30 meters. Conventional missiles with even greater precision are now being developed."¹⁷³ The Pentagon's 2007 report summarizes Chinese missile capabilities as follows:

China's Missile Forces		
China's Missile Inventory	Launchers/Missiles	Estimated Range
CSS-4 ICBM	20/20	12,900+ km
CSS-3 ICBM	9-13/16-24	5,470+ km
CSS-2 IRBM	6-10/14-18	2,790+ km
CSS-5 MRBM Mod 1/2	34-38/40-50	1,770+ km
JL-1 SLBM	10-14/10-14	1,770+ km
CSS-6 SRBM	70-80/300-350	600 km
CSS-7 SRBM	110-130/575-625	300 km
JL-2 SLBM	DEVELOPMENTAL	8,000+ km
DF-31 ICBM	INITIAL THREAT AVAILABILITY	7,250+ km
DF-31A ICBM	DEVELOPMENTAL	11,270+ km

Source: Department of Defense, *Annual Report to Congress on Military Power of the People's Republic of China 2007*, p. 42.

There are many reports that Chinese “conventional” ballistic missiles are nuclear capable. According to U.S. China expert Brad Roberts, a “core premise” of the Second Artillery as stated in the PLA document entitled, “The Strategic Use and Development of the Second Artillery in the New Period,” is that the new precision guided ballistic missiles are “nuclear-conventional dual-use.”¹⁷⁴ China expert Savita Pande noted that, “PLA Major General Wi Jianguo argued... that the emergence of high tech weaponry has not replaced the position and role of nuclear weapons.... General Wu noted that though these nuclear war weapons have considerable destructive power, the possibility of using them will not be negated.”¹⁷⁵

There are reports, including from China, that the PRC has developed a ballistic missile designed to attack U.S. aircraft carriers.¹⁷⁶ The professional military debate in China discussed countering U.S. stealth aircraft by, “using various kinds of surface-to-surface missiles and cruise missiles to hit airfields where F-22s are deployed, and any stealth plane-carrying aircraft carriers which may appear.”¹⁷⁷ The *Kanwa Defense Review* reported intensified Chinese efforts to attack U.S. carriers including with ballistic missiles.¹⁷⁸

In addition to a dual-capable, increasingly accurate force, Chinese mobile missiles are reportedly well-protected by “cave missile bases.”¹⁷⁹ A Chinese publication referred to these facilities as a “sealed...‘underground palace’...”¹⁸⁰ In the United States we would refer to these as hard and deeply buried tunnel facilities. China is literally the only country in the world today with a precision-conventional, and, reportedly, nuclear ballistic missile strike capability. This will give China a significant advantage in a war with the United States, Japan, Taiwan or even the Russian Federation. While Western governments are reducing their nuclear strike capability with little or no modernization, China already has the option of a precision nuclear strike and this capability will increase dramatically over the next decade. While Russia is qualitatively improving its nuclear strike forces, it lacks the resources to match the nuclear/conventional precision strike buildup that is underway in China, ironically facilitated by Russia’s arms sales and assistance.

There is no recent public U.S. Defense Department estimate concerning how many new nuclear strategic missiles China plans to add to its arsenal. In July 2006 *Defense News* reported that China plans 60 DF-31 ICBMs, then the DF-31A and five to seven Jin-class (Type 094) nuclear-powered subs, each of which will carry up to 16 JL-2 missiles.¹⁸¹ Hong Kong-based military analyst Ma Ting-sheng talks about four Chinese missile submarines carrying 12 launchers each.¹⁸² The emphasis on mobile ballistic missiles and tunnel facilities, coupled with China’s lack of transparency on the issue, make it difficult to predict in advance how large a force will be deployed. However, the significance of any projected number for launchers or missiles will be heavily shaped by the number of warheads China decides to place on its missiles.

A number of sources document the likelihood that China is following the U.S. and Soviet/Russian path toward multiple, independently targetable reentry vehicles (MIRV). There are many reports that the new Chinese missiles will be MIRVed, but this has not been confirmed by Defense Department's reports other than to say that the CSS-4 (DF-5) was the most likely candidate for a MIRV capability.¹⁸³ In September 1999 Robert Walpole, National Intelligence Officer for Strategic Nuclear Programs, stated that China "could use a DF-31-type RV to develop and deploy simple MRV or multiple independently targeted reentry vehicles (MIRV) for the CSS-4...."¹⁸⁴ Hong Kong-based military commentator Ma Ting-sheng stated in May 2006 that these missiles carry three warheads.¹⁸⁵ A December 2000 report from India stated that, "According to Indian intelligence reports, Chinese scientists are busying modifying a 'bus' developed for launching US Motorola Iridium communication satellites to carry about eight small nuclear warheads."¹⁸⁶ Similar reports concerning Chinese MIRV development have appeared in France, Russia and Japan.¹⁸⁷

Air Delivery

In addition to its rapidly growing missile force, China has air-delivered nuclear weapons. Retired Russian Colonel and Member of the Academy of Military Sciences Yuri Sumbatyan wrote that "as many as 500 or 600" of Chinese combat aircraft "are capable of carrying nuclear weapons."¹⁸⁸ On Hong Kong television Xu Guangyu, Senior Advisor at the Sanlue Institute of Strategic Management Science in Beijing, admitted that "cruise missiles with nuclear warheads are among the nuclear weapons being developed in China."¹⁸⁹ China has covertly acquired the Russian KH-55 long-range nuclear cruise missile from Ukraine.¹⁹⁰ China has a pattern of reverse engineering foreign weapons.

Conclusion: A Nuclear Challenge to the United States?

The conventional wisdom is that while Beijing believes that "its nuclear weapons could decisively influence U.S. behavior in a crisis or conflict over Taiwan" it is not going to challenge the current "strategic nuclear balance with the United States, and appears intended to maintain the status quo."¹⁹¹ As stated in the 2006 Rand study by Mulvenon et. al., "evidence suggests...that the modernization of China's strategic nuclear forces is intended primarily to improve the credibility of China's nuclear deterrent."¹⁹² This assessment may be too benign. The same thing was said about the Soviet Union a year before its nuclear buildup became evident in 1966. Indeed, a 2003 *Rand* study concluded that, "the Chinese nuclear threat to the United States could evolve into a smaller version of the former Soviet Union."¹⁹³ If the Chinese, as they say, are willing to

fight a war at “any cost” for Taiwan, “credible minimum deterrence” is not an optimum strategy. The projected \$4 trillion dollar Chinese GNP in 2020 could certainly support a nuclear force at the U.S. or Russian level with considerable counterforce capability. As one retired Chinese general was quoted as saying: “we must have whatever new weapon other countries have. Even if they [other countries] don’t have them, we need to acquire them.”¹⁹⁴ A moderately paced buildup of Chinese nuclear capabilities minimizes the chance that the U.S. will use its economic and technical advantage to prevent China from achieving such an objective.

While we do not know for sure how large a nuclear force China plans, there are indications that there are factions in the PLA that want to challenge the United States. China may also be interested in dramatically increasing its nuclear capability because of its potential impact on a Taiwan crisis and China’s long-term status as a world power. An *Institute for Foreign Policy Analysis* study by Jacquelyn K. Davis and Michael J. Sweeney concluded that China might deploy as many as 1,500 strategic warheads on its ICBMs and SLBMs by 2025.¹⁹⁵ That is very close to the U.S./Russian Strategic Offensive Reductions Treaty (SORT) number of 1,700 to 2,200 operationally deployed strategic nuclear warheads. Thus the level of MIRVing and, possibly, a throw-weight increase which we might see as a matter of course in the next generation of Chinese missiles would bring them to the brink of rough parity with U.S. (and Russian) strategic nuclear forces.

The Chinese buildup has to be seen in the context of a Chinese preparation to confront the United States over Taiwan. An article by Gao Yan in Hong’s Kong *Kuang Chiao Ching*, a magazine reputed to have close ties to the PRC military, argued that “an all-out conflict can take place between China and the United States over the issue of Taiwan at any time” and that China must have a nuclear capability “balancing and offsetting the United States’ hegemonic power.” The article further concluded that China’s concept of nuclear war:

Is completely wrong and absurd.... Minimum nuclear deterrence is only a phase-specific strategy that one is forced to adopt in the early stage of nuclear weapons development because of insufficient nuclear capability....,[China would have] to compromise or concede defeat at a certain stage [unless it is] able to totally destroy any enemy through nuclear attack and the targets must include **all enemy strategic military, economic and population centers.**¹⁹⁶ (Emphasis added).

While Gao Yan’s extreme nationalism and anti-Americanism are obviously on display, his points may reflect currents that are increasingly popular in mainstream PLA thinking. For example, Second Artillery Deputy Commander Lt. General Zhao Xijun recognizes that, “among the various key factors in deterrence strategy, the most important one is power....With great comprehensive power one can terrify an opponent in the very sight of the forces he faces, so that he does not dare to act without careful thought....The form of military power having the greatest influence on the employment of deterrence

strategy today is nuclear forces....Nuclear weapons have a direct influence on the scale of the war, on the combat measures used, on the conditions of a ceasefire, etc....To deter hegemonistic aggression, a developing country should...actively strengthen its defensive military power, develop necessary strategic deterrence forces, and work hard to improve its defensive combat operations capabilities for high-tech conditions."¹⁹⁷ A 2001 article by Chin Shao-yan in a Hong Kong publication owned by the Chinese government reported on a PLA exercise involving an invasion of Taiwan in which attacks were launched on U.S. carriers with a variety of weapons including "tactical nuclear weapons."¹⁹⁸ As is a core element of Russian strategy concerning tactical nuclear weapons, which some Chinese endorse, the threat of tactical nuclear weapons use is clearly more credible if there is at least strategic parity.¹⁹⁹

If this more muscular view of the utility of nuclear weapons reflects a trend in PRC nuclear thinking, multiple factors have converged to make it so: 1) China's continuing economic growth; 2) The easy U.S. victory in Operation Desert Storm; 3) The demise of the Soviet Union; 4) The tremendous reduction in U.S. military capability after the Cold War; and 5) The demonstrated role of U.S. aircraft carriers in response to the PRC-initiated 1996 Taiwan missile crisis. When combined, these factors resulted in a Chinese decision to use its new economic strength to arm at all levels. This arms buildup has the objectives of fighting and defeating the United States if it proves necessary in order to conquer Taiwan and ultimately, establishing regional hegemony. The situation is being made worse by the growth of an extreme nationalism that is replacing communist ideology as the regime's claim to legitimacy. This potential threat is being made worse by the emergence of a new "strategic relationship" between Russia and China that appears uniquely anti-American in character.

As professor Arthur Waldron stated in the year 2000 before the House Armed Services Committee, the Chinese idea that China can wage, "a lightning war stratagem, using missile barrages, special forces, or whatever, to topple the Taipei government in a matter of hours....is a dangerous fantasy, but people take it seriously."²⁰⁰ What makes this even more dangerous is the Chinese view that nuclear threats will deter a U.S. response to aggression. The Chinese clearly believe, as stated by General Liao Xilong, a member of the Central Military Commission and Director of General Logistics Department, that, "[W]hoever possesses a stronger nuclear capability will be able to control the process of war."²⁰¹

Notes

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