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China's Nuclear Opacity Continues, While Capability Rises

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The Information Office of the State Council of the People's Republic of China (PRC) released a White Paper titled *China's Military Strategy* on May 26, 2015, in Beijing – largely a comment on China's national security situation which delineates the "missions and strategic tasks" of the People's Liberation Army (PLA). The paper elucidates upon the building and development of China's armed forces in its "preparation for military struggle". The Ministry of National Defence has outlined that the PLA shoulders strategic tasks, the most significant of which is to "effectively safeguard the sovereignty and security of China's territorial land, air and sea; safeguard the unification of the motherland and China's security and interests in 'new domains' and deter and win wars..."

While the PLA is tasked to accord prominence to employment of strategies and tactics featuring flexibility and mobility of the combat force structure for joint operations, the Second Artillery Force of the PLA remains committed to "maintaining strategic deterrence and carry out nuclear counterattack". Being the strategic force which controls China's land-based nuclear and conventional ballistic missiles, the Second Artillery Force remains under the direct command and control of the Central Military Commission. It is responsible for conducting nuclear counter-attacks as well as medium- and long-range precision strikes with

Key Points

1. Beijing's growing capabilities in the nuclear domain are causing strain regionally owing to China's interminable silence on its strategic intent.
2. There is explicit tension in Chinese writings on the nuclear doctrine – primarily the relationship between maintaining secrecy about China's capabilities while, at the same time, revealing its will and determination to use nuclear weapons in a crisis.
3. Mao Zedong had averred that China's nuclear modernisation should be guided by the three principles of "*you yidian, shao yidian and hao yidian*" ("build few weapons, keep the number small, make the quality high).
4. China's on-going nuclear weapons modernisation has been informed and guided by three general principles: effectiveness (*youxiaoxing*), sufficiency (*zugou*), and counter-deterrence (*fanweishe*).
5. The employment of improved command, control, and communications capabilities of its nuclear forces has improved the Second Artillery Force's ability to command and control multiple units in the field.

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conventional missiles. The Chinese discourse on nuclear ambiguity states that it has to depend on uncertainty for its deterrence. In fact, reliance on opaqueness tends to bring about greater deterrent value, be it obscurity regarding the force structure, or the size of the nuclear force, for that matter.[1] There is explicit tension in Chinese writings on the nuclear doctrine – primarily the relationship between maintaining secrecy about capabilities (a long-accepted aspect of China's approach to deterrence) while, at the same time, revealing China's will and determination to use nuclear weapons in a crisis.[2] That said, the White Paper accepts that the nuclear force is a strategic cornerstone for safeguarding national sovereignty and security – and that China will unconditionally not use or threaten to use, nuclear weapons against non-nuclear-weapon states or in nuclear-weapon-free zones.

China's thinking on its nuclear deterrent appears to coalesce around the notion that Beijing needed to move toward a visible, and credible, minimum deterrent, that relied on the mobility, invulnerability, and penetrability of its nuclear forces as the foundation for possessing a survivable nuclear force.[3] This can be referenced back to the time when Mao Zedong averred that China's nuclear modernisation should be guided by the three principles of "*you yidian, shao yidian and hao yidian*" ("build few weapons, keep the number small, make the quality high).[4]

Nuclear Strategy at the Strategic and Campaign Levels

In pursuit of the core nuclear strategy of "deterrence of a nuclear war and limited nuclear retaliation," the key applied principles governing the nuclear force are consistent with the conceptual elements of the essential tiers, namely, strict protection of the missile units (*yanmi fanghu*); ensuring the survivability of the missiles needed for counter-attack; and, striking only key strategic targets (*zhongdian fanji*) in the enemy's homeland for effective nuclear retaliation.[5] Generic Chinese beliefs about nuclear weapons have been expressed in the form of four key concepts at the strategic and campaign levels that constitute the backbone of the Chinese nuclear doctrine.[6] These include the concept of *houfa zhiren* (gaining mastery by striking after the enemy has struck) at the strategic level; and *yanmi fanghu* (close defence or self-protection), *zhongdian fanji* (key-point counter-strikes), *fan heweishe* (counter-nuclear deterrence/counter-intimidation) – all three at the campaign level. *Houfa zhiren* is among the most important conceptual principles in Chinese nuclear thinking i.e., to build a secure second-strike (or, as the Chinese say, counter-strike) capability, as well as the no-first-use commitment. Chinese nuclear articulation appears to suggest that the country's nuclear weapons serve the twin purpose of nuclear deterrence (*he weishe*) and nuclear counter-strike/nuclear retaliation (*he fanji/he baofu*).[7]

China's on-going nuclear weapons modernisation has been informed and guided by three general principles: effectiveness (*youxiaoxing*), sufficiency (*zugou*), and counter-deterrence (*fanweishe*).[8] Although China's 2006 Defence White Paper emphasised development of land-based strategic capabilities, both nuclear and conventional, it did not provide any specifics on the existing arsenal, or on the structure of the Second Artillery Corps order of battle, or the projected size of the nuclear force. The only visible statement indicating its stance was that "China will continue to maintain and build a lean and effective nuclear force."[9] China's nuclear modernisation focusses especially on the survivability and effectiveness of a credible second strike capability, with the present focus being on missile, rather than warhead, development. The qualitative improvement and deployment of new-generation land- and submarine-based ballistic and cruise missiles are a manifestation of that objective.[10] China's acknowledgment of testing a hypersonic glide vehicle in 2014 comes in addition to working on a range of technologies including Manoeuvrable Reentry Vehicles (MaRVs), Multiple Independently Targetable Reentry Vehicles (MIRVs), decoys, chaff, jamming, and thermal shielding. This extensive reportage falls in line with the official announcement in the White Paper which states that China will optimise its nuclear force structure, improve strategic early warning, command and control, missile penetration, rapid reaction, and survivability and protection.

In line with the strategic requirement of being a "lean and effective" force possessing both nuclear and conventional missiles, the PLA Second Artillery Force has strived to transform itself with innovations in weaponry and equipment, reliability and effectiveness of missile systems, and improvement in the overall force structure. That notwithstanding, the pronouncements made in the White Paper for the Second Artillery Force have not been empirically verified by the PLA given that the subject is shrouded in absolute secrecy. However, official state-run and controlled Chinese media often cite numerous Second Artillery Force training exercises featuring manoeuvre, camouflage, and launch operations under simulated combat conditions – all intended towards increasing survivability and strategic strike capability. According

to the 2015 assessment of the US Department of Defence, pursuant to the National Defence Authorisation Act, regarding the military and security developments in China, the "military long-march" continues unabated.

Conventional Missiles

The Pentagon estimates the Second Artillery Force's inventory of possessing at least 1,200 Short-Range Ballistic Missiles (SRBMs) – with the lethality of the conventional missile force furthered by fielding a new ballistic missile version, the CSS-11 (DF-16), possessing a range of 800-1,000 km. Coupled with the already deployed conventional variant of the CSS-5 (DF-21) Medium-Range Ballistic Missiles (MRBMs), China's ability to strike not just Taiwan, but other regional targets has gone up. In addition, the conventionally armed MRBMs include the CSS-5 Mod 5 (DF-21D) Anti-Ship Ballistic Missiles (ASBMs), with a range of 1,500 km and capacity to launch manoeuvrable warheads. This provides the PLA with a capability to attack ships in the western Pacific Ocean.[11]

Nuclear Missiles

The nuclear inventory continues to modernise by enhancement of its silo-based Inter-Continental Ballistic Missiles (ICBMs) and adding more survivable, mobile delivery systems. China's ICBM arsenal currently consists of 50-60 ICBMs, including the silo- based CSS-4 Mod 2 and MIRV-equipped Mod 3 (DF-5); the solid-fuelled, road-mobile CSS-10 Mod 1 and 2 (DF-31 and DF-31A); and the shorter range CSS-3 (DF-4). The CSS-10 Mod 2, with a range in excess of 11,200 km, is capable of reaching most locations within the continental United States. Significantly, China is now developing a new road-mobile ICBM, the CSS-X-20 (DF-41) which is most likely capable of carrying MIRVs. This force is complemented by liquid-fuelled CSS-2 Intermediate-Range Ballistic Missiles (IRBMs) and road-mobile, solid-fuelled CSS-5 (DF-21) MRBMs for regional deterrence missions.[12] The new generation of China's strategic ballistic missiles are to have the Four 'Highs' (*si gao*):

- High survivability before launching;
- High anti−interception capability;
- High precision and strike capability; and
- High reliability [13]

The employment of improved command, control, and communications capabilities of its nuclear forces has improved the Second Artillery Force's ability to command and control multiple units in the field. The ICBM units now have better access to battlefield information, uninterrupted communications connecting all command echelons, and unit commanders being able to issue orders to multiple subordinates at once, instead of serially, via voice commands.[14]

Submarine Force

The PLA Navy currently possesses five nuclear attack submarines (SSN), four nuclear ballistic missile submarines (SSBN), and 53 diesel attack submarines (SS/SSP). What stands out is that by 2020, this force shall likely increase to between 69 and 78 submarines. By 2025, China is speculated to construct a new Type 095 nuclear powered, guided-missile attack submarine, which shall not just improve the PLA Navy's anti-surface warfare capability, but provide it with a land-attack option as well. Besides, with four Type 094 JIN-class SSBNs currently operational, and up to five expected to enter service, associated with the CSS-NX-14 (JL-2) Submarine-Launched Ballistic Missiles (SLBMs) – estimated range of 7,400 km – this will provide China its first-ever sea-based nuclear deterrent.[15] In line with this development, China is expected to conduct its first SSBN nuclear deterrence patrol later this year or in early 2016 – by virtue of the JIN SSBNs based at Hainan Island in the South China Sea. These deterrence patrols shall also put to test far more sophisticated command and control systems and processes that safeguard the integration of the nuclear release authority in so far as a more dispersed force is concerned. It needs to be highlighted that ever since the 1990s, the Second Artillery reportedly began to practise group launches/sequential missile launches from different bases (*daguimo lianhe daji*) to test response and retaliatory capabilities, and listed the following operational principles for the Second Artillery:

- Unexpected attack (*xianji zhidi*);
- Attack at centres (*zhongdian daji*);
- Concentration (*jizhing shiyong*);
- Consecutive attacks (*lianxu daji*);
- Flexibility and mobility (*linghuo jidong*); and
- Coordination (*miqie xietong*)[16]

Nuclear Power Projection in the Indian Ocean Region

In a first-ever such move, signalling strong strategic intent, a Chinese SHANG-class nuclear-powered attack submarine (SSN) conducted a two-month deployment in the Indian Ocean between December 2013 and February 2014, while a SONG-class diesel-powered

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attack submarine (SS) patrolled in the Indian Ocean earlier in September and October. Although the Chinese Ministry of National Defence assured regional nations that the submarines deployed in the Indian Ocean were to "support China's counter-piracy patrols", what can certainly not be denied is that the submarines were probably conducting area familiarisation to achieve the larger objective of demonstrating an emerging power projection capability in the Indian Ocean Region.

China's nuclear weapons policy prioritises maintaining a nuclear force able to absorb and survive an attack and subsequently respond to inflict unacceptable damage on the adversary. It is presumably argued that China will absorb an initial nuclear strike while ensuring that the leadership and strategic assets survive and subsequently respond – for which, maintaining a limited, but survivable, nuclear force is what the Second Artillery Force aspires for. That notwithstanding, China's concealment of its nuclear arsenal and delivery systems is not helping maintain strategic stability in Asia, given that Beijing's growing capabilities in the nuclear domain are causing strain regionally owing to its interminable silence on its strategic intent.

Notes

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5. John W Lewis and Xue Litai, "Making China's Nuclear War Plan," *Bulletin of the Atomic Scientists*, Vol. 68, No. 5, 2012, pp. 45-65; also see, "Second Artillery's Main Equipment and Basic Applied Principles," 2006, available at http://lt.cjdby.net/thread-247240-1-1.html
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15. Ibid.
16. As reported by the Military Intelligence Bureau, 2002, p. 13.

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