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Mr. Chairman, thank you for the opportunity to participate in today's hearing on an issue that is important to U.S. interests in peace and stability in the Asia-Pacific region. It is an honor to testify here today. The evolving capacity of the People's Republic of China (PRC) to use military force presents a number of challenges for the United States, allies, and friends in the Asia-Pacific region. In my presentation this morning, I will address PRC investment into conventional missile forces and offer a basic outline of its research, development, and acquisition system.

The People's Liberation Army (PLA) is rapidly advancing its capacity to integrate sensors and long range precision strike assets in order to advance the legitimacy of the Chinese Communist Party (CCP), and defend against perceived threats to national sovereignty and territorial integrity. The PLA relies on the Second Artillery Force for achieving strategic effects through direct targeting of enemy centers of gravity. Ballistic missiles capable of delivering conventional payloads with precision have a coercive effect on neighbors with limited countermeasures. Real or latent missile capabilities can be amplified or attenuated through well-organized and resourced political influence operations.

Until the fall of Soviet Union in 1991, the Second Artillery's mission was limited to blunt instruments of mass destruction. Since 1991, the Second Artillery conventional missile force has become central to PLA warfighting. Ballistic and extended range cruise missiles are an attractive means of delivering lethal payloads due to the difficulties in defending against them in flight. Firepower delivered directly against critical nodes within an opponent's operational system allows conventional air, naval, and ground operations to be carried out at reduced risk and cost. Control of the skies enables dominance on the surface below. With Second Artillery firepower support, Air Force and Navy assets may gain and maintain the air superiority needed to coerce political concessions or gain a decisive edge on the surface.

The Second Artillery's conventional reach is gradually extending throughout the Asia-Pacific region as it expands its brigade infrastructure and introduces increasingly sophisticated missile systems into the inventory. Use of force against Taiwan has been the principle illustrative planning scenario guiding PLA and Second Artillery force modernization. Enjoying the broadest support within the CCP Central Committee and Central Military Commission (CMC), a Taiwan scenario allows the PLA to modernize its forces without precipitating neighbors to invest significant additional resources into deterrents and defenses. Over time and with an industrial surge, the same coercive military capabilities focused on Taiwan could be directed against South Korea, Japan, Philippines, Vietnam, Singapore, Australia, Thailand, India, and others in the region. The Second Artillery and support defense industrial designers appear to be considering a phased approach to fielding increasingly long range conventional precision strike systems that could have global reach by 2030.

Emerging PLA anti-access/area denial (A2/AD) capabilities may complicate U.S. ability to operate in the region. Anti-access threats, designed to prevent an opposing force from entering an operational area, include long-range precision strike systems that could be employed against bases and moving targets at sea, such as aircraft carrier battle groups. Area denial involves shorter-range actions and capabilities designed to complicate an opposing force's freedom of action. Extended range conventional precision strike assets could suppress U.S. operations from forward bases in Japan, from U.S. aircraft battle groups operating in the Western Pacific, and perhaps over the next five to 10 years from U.S. bases on Guam. The Second Artillery also appears to have developed and deployed an initial capability to strike moving targets at sea, such as aircraft carriers and destroyers.

The perceived capacity to complicate U.S. operations within the region reduces confidence in the U.S. commitment to the Taiwan Relations Act (TRA) and other security obligations. As a result, U.S. allies and *ad hoc* coalition partners in the region may eventually face a dilemma: invest more resources into counterstrike systems or adopt conciliatory policies under increasingly coerced conditions. For deterrence and defense, especially in a Taiwan scenario, defenders *require* the means to strike single points of failure within the battlespace from which PLA offensive missile operations are being launched. Like any military organization, a PLA joint theater command and Second Artillery corps are operational systems, and ones that are increasingly complex. Like any operational system, the Second Artillery has single points of failure.

Drivers

First, long range precision strike capabilities – ballistic missiles in particular – support the CCP's quest for political legitimacy. The PLA functions as the armed wing of the CCP, and the Second

Artillery is the party's instrument for achieving strategic effects through direct targeting of enemy centers of gravity. The most immediate challenge to CCP domestic and international legitimacy is the Republic of China (ROC; or Taiwan). Because Taiwan's democratic system of government – an alternative to mainland China's authoritarian model – presents an existential challenge to the CCP, the PLA continues to rely on military coercion to compel concessions on sovereignty.

A second driver is operational in nature. Constrained by a relatively underdeveloped aviation establishment, the PLA is investing in capabilities that may offset shortcomings in the face of a more technologically advanced adversary. Basic Chinese operational theory is founded upon the notion that unimpeded access to skies over a region not only enables operational success on the surface. Theater missiles, defined as conventional ballistic and land attack cruise missiles (LACMs) with ranges between 500 and 5500 kilometers, create a more permissive environment for PLA Air Force (PLAAF) and Navy operations.

Among all PLA services and branches, the Second Artillery best understands the art of nodal analysis, strategic targeting, and effects-based operations, competencies that are traditionally enjoyed by air forces. The PLAAF appears to be still in the early stages of transforming from a defense counter-air mission toward an offensive interdiction orientation. To date, PLA conventional air platforms have been insufficient by themselves to suppress air defenses, conduct strategic strike missions, or gain air superiority around the Chinese periphery. Increasingly accurate conventional ballistic and LACMs are the optimal means for suppressing enemy air defense and creating a more permissive environment for subsequent conventional air operations due to their relative immunity to defense systems.

Conventional long range precision strike systems also could enable political leaders in Beijing to apply effective military measures to enforce territorial claims in the western Pacific Ocean. Theater missiles, including those adapted for the maritime environment, could enable precise targeting of Japanese or other naval combatants with few defenses. An extended range strike capability would allow China to defend its interests in other parts of the world, including assured access to energy resources transiting through the Straits of Malacca and perhaps even the Indian Ocean.

Missile strike operations also are viewed as a vital element of territorial air defense, with missiles intended to suppress adversary strike capabilities at their source. Along these lines, the Second Artillery is central to the PLA's strategy of complicating the ability of the United States to project global power and operate freely within the Asia-Pacific region. As strategic analyst Andrew Krepinevich observes, "since the Taiwan Strait crisis of 1996…China has moved to shift the military balance in the Western Pacific in its favor by fielding systems capable of driving up the cost of U.S. military access to the region to prohibitive levels." Theater missiles are essential

for anti-access and area denial capabilities. Over time, conventional strikes against critical infrastructure in the continental United States, such as space-related ground stations, could further complicate military operations.

Research, Development, and Acquisition

The Second Artillery is responsible for missile force planning and development of operational and technical requirements that are validated by the Central Military Commission (CMC) and the State Council. The Second Artillery Equipment Department probably develops short (e.g., five year) to long term (e.g., 15 or more years) plans and manages acquisition programs. Equipment Department leaders are supported by the Second Artillery Equipment Research Academy. Established in December 2003, the academy integrated four previously independent research institutes consisting of 36 labs. Since that time, the academy has expanded to seven research institutes. Acquisition program managers likely oversee industrial engineering R&D, and Second Artillery industrial representative offices ensure quality control.

A Second Artillery operational test and evaluation (OT&E) unit often is established after a CMC/State Council decision to invest in engineering R&D. The unit facilitates the introduction of a new capability into the operational inventory. An OT&E unit familiarizes itself with the civilian design team, industrial supply chain, and final assembly plant. Members of the unit presumably are supported by Second Artillery Equipment Department representative offices embedded with civilian defense industrial design departments, research institutes, and factories.

An OT&E unit plays a critical role in the flight testing that culminates in final CMC/State Council certification of the design and approval to begin low rate initial production. The OT&E team is assigned a military unit cover designation (MUCD) and sometimes temporarily collocated with an existing missile launch brigade. Upon design finalization, the unit appears to transition to brigade status and settle in to its permanent facilities. One or more battalions may initially be equipped with a launcher and deploy to northwest China for initial live fire testing and/or field training. The brigade may also refine equipment maintenance procedures and modify training simulators initially developed by the OT&E team. Over the course of two-three years after its establishment, the brigade may be expected to fill out a full contingent of six battalions and attain a full operational capability.

Two large state-owned enterprises – the China Aerospace Science and Industry Corporation (CASIC) and China Aerospace Science and Technology Corporation (CASC) – design, develop, and manufacture missile systems for the Second Artillery based on general policies established by GAD. While maintaining a long term perspective, force planners and defense industry rely on conservative, incremental upgrades to existing missile variants. Based on CMC/State Council planning, programming, and budget guidance, engineering R&D may consist of four phases. A

phased approach calls for multiple variants of the same basic missile system to be in the R&D cycle at any one time.

Basic guidelines for China's space and missile R&D strategy were established in the 1960s and entail a phased approach involving three variants of a system to be in each phase of the R&D cycle at any one time. This incremental approach offers some basis for assessing possible future capabilities, keeping in mind the potential for leapfrog advances. Guided by CMC-approved general planning, programming, and budget guidance, R&D may consist of four phases.

- *Preliminary research* is focused on initial development of key technologies applicable to multiple programs and could reduce engineering R&D time and risk. The GAD Integrated Planning Department's Preliminary Research Bureau and a similar organization within the Second Artillery Equipment Department function as important supervisory bodies for funded projects in this phase.

- During the *concept development and program validation phase*, the Second Artillery, working in conjunction with defense industry, identifies key technologies and assesses alternatives that could meet basic operational and technical requirements. A capstone document used as the basis for a final decision to invest in engineering R&D is referred to as the Tactics and Technology Index.

- During the *engineering R&D phase*, programs are managed through a dual command system that divides administration and technical responsibilities. A research academy within one of two state owned enterprises – China Aerospace Science and Technology Corporation (CASC) and China Aerospace Science and Industry Corporation (CASIC) – assumes a lead systems integration role. Administrative responsibilities reside with a program manager, while technical aspects of a program are the responsibility of the chief designer and his/her design team. The program manager ensures timeliness, controls quality, schedules testing, and manages the program budget. Members of the technical design team appear to have concurrent positions within an academy's design department and research institutes. The design team most likely is organized in accordance with the work breakdown structure outlined in approved R&D guidelines and research academy's contract with the PLA user.

- During the *design finalization phase*, end users and industrial program managers evaluate whether or not a design satisfies operational and technical requirements. Ground and flight tests at specified ranges are carried out and evaluated in accordance with operational and technical requirements, including the Tactics and Technology Index, General Missile System R&D Requirements, and R&D Mission Document. After successfully completing flight testing, the system is reviewed by a design finalization board. The program management team produces a systems R&D report for review by a senior-level Second Artillery Design

Finalization Committee. If approved, the system is reviewed by a first level Design Finalization Committee comprised of members of the State Council (Premier or Vice Premier) and CMC. A joint CMC-State Council standing office appears to support the first level design certification committee.

Operational Infrastructure: Past as Prologue

Since deployment of its first ballistic missile in the 1960s, the PLA and China's space and missile industry have sought greater range, survivability, accuracy, and effectiveness against a broader range of targets. Based on an incremental approach to R&D, production, and operational test and evaluation, the PLA is gradually extending and diversifying the warfighting capacity of the Second Artillery's ballistic missile force as a core element of its regional political-military strategy. Space-based, airborne, and ground-based sensors can facilitate command and control, and provide crucial strategic intelligence, theater awareness, targeting, and battle damage assessment information. Authoritative Chinese writings indicate research into, and development of, increasingly accurate and longer range conventional strategic strike systems that could be launched from Chinese territory against land and sea-based targets throughout the Asia-Pacific region in a crisis situation. The PLA may have a long term, phased approach for development of a conventional global precision strike capability.

Leveraging the vacuum created by the signing of the U.S.-Soviet Intermediate Nuclear Forces (INF) Treaty in December 1987, Taiwan's democratic transformation has been the principle driver for the PLA's conventional missile force buildup. The PLA had already achieved some success in solid rocket motor technology and its first solid-fueled ballistic missile – the DF-21 – in the early 1980s. A reduction in tensions across the Taiwan Strait after the U.S. switched diplomatic recognition from the ROC to the PRC enabled a reduction in PLA force posture opposite Taiwan, and reduction in defense spending. China's political leadership increasingly turned its attention toward economic development. Encouraged to enter the export market to offset declining domestic demand for defense production, the space and missile industry began formal R&D on a short range ballistic missile (SRBM) -- the DF-15 -- in April 1985. Active international marketing began in November 1986, when the missile was displayed during a defense exhibition in Beijing. The space and missile industry concluded an agreement for the sale of the M-9 to Syria in early 1988 before flight testing and design finalization. CASIC's 066 Base in Hubei also entered the competition and began development of a 300 kilometer range DF-11 (export designation: M-11) solid fueled ballistic missile in 1985.

By the latter part of the decade, however, the CMC began serious consideration of integrating conventional ballistic missiles into the active PLA inventory. U.S. and Soviet arms control initiatives opened a window for the PLA to gain a strategic advantage. With a large arsenal of 600 kilometer range ballistic missiles, China would soon have a military capability no one else in

the world possessed. After long negotiations, the former Soviet Union and United States concluded the INF Treaty in December 1987. The INF Treaty required both sides to eliminate all land-based ballistic and cruise missiles with ranges of between 500 and 5500 kilometers, including the assets the Soviets had deployed in the Far East.

At the same time, ROC President Chiang Ching-kuo's lifting of martial law and legalization of opposition parties in 1987 and his subsequent passing in January 1988 prompted CCP concerns. Chiang's anointed successor, Lee Teng-hui, was a native Taiwanese without the emotional attachment to Chinese nationalism shared by his predecessors. Viewing Taiwan's gradual democratization an existential threat to CCP legitimacy, more active measures were required to coerce Taiwan's political leadership into unification under the CCP's "One Country, Two Systems" framework.

Beyond Taiwan-specific considerations, international pressure on the PRC to sign on to the Missile Technology Control Regime (MTCR) threatened revenue sources for China's defense industrial base. The space and missile industry began lobbying the PLA to adopt a conventional ballistic missile capability, arguing that improvements in accuracy would make the systems militarily viable.

After the successful initial test of the DF-15 SRBM in June 1988, the CMC approved a plan to establish a conventional missile force opposite Taiwan. With a 1988 decision to deploy ballistic missiles in a conventional role, the PLA's SRBM build-up opposite Taiwan began with establishment of a seed unit on August 1, 1991. Under the leadership of then Lieutenant Colonel Gao Jin (now commandant of the PLA Academy of Military Sciences), the team worked in coordination with the aerospace industry in the finalized design, certification, and operational test and evaluation of the new missile system. Final DF-15 acceptance testing took place in August 1992, and the Leping brigade's first operational test launch of a missile took place on November 23, 1993. Formation of the unit coincided with acquisition of new fighters from the former Soviet Union, and initiation of cross-Strait negotiations. Note that the CMC decision to establish the first SRBM brigade opposite Taiwan and procurement of Soviet Su-27s *preceded* U.S. release of F-16s in September 1992.

With the successful performance of the initial SRBM brigade, plans to fill out a larger infrastructure opposite Taiwan. The Leping "seed unit" produced a cadre of capable engineers familiar with forming new brigades equipped with sophisticated missile systems. With the DF-15 system securely deployed in Leping, active planning began to form the initial unit to be equipped with a longer range variant of the DF-11 missile. The original 300km variant had been successfully flight tested in 1990, with initial intent for sale to Pakistan in early 1991.

In the wake of a 1993 CMC decision, Base 066 in Hubei Province began work on an extended range variant – the DF-11A – with the goal of doubling the range without a compromise in accuracy. Coinciding with initial ground tests, the Second Artillery command directed the establishment of a new seed unit in 1995, drawing on nine junior and field grade officers, some from the Leping brigade. The unit began its formal work in 1997. Initially collocated with the Leping brigade, the second SRBM brigade moved to its permanent garrison location near the Fujian city of Yong'an in late 1999 or early 2000. Final acceptance of the missile took place in August 1999.

As the second SRBM was being formed, the Leping brigade applied its missiles in a real world coercive exercise. In July 1995, the CMC directed the Second Artillery to launch four missiles into the waters adjacent to Taiwan's two primary harbors, Kaohsiung and Keelong. Six months later, the *New York Times* reported explicit Chinese threats to conduct follow-on ballistic missile exercise strikes in order to deter perceived moves toward *de jure* independence by then-KMT President Lee Teng-hui and send a signal of Chinese displeasure to the international community. While many in Beijing appear convinced that the missiles were politically effective, others acknowledged that the exercises sparked worldwide anti-China sentiment, strengthened U.S. alliances in the region, re-invigorated the U.S.-Taiwan defense relationship, and hardened U.S. resolve to intervene in any future use of force against Taiwan.

Over the following five years, the PLA proceeded to fill out a remaining four conventional brigades distributed across three provinces in southeast China. Following full operational capability of the DF-11A, work proceeded in 2001 to establish the third SRBM brigade – probably the second to be equipped with the DF-11A --in eastern Guangdong Province. After three years, the new brigade near Meizhou appeared to have been fully equipped. At the same time, another brigade was established near the southern Jiangxi city of Ganzhou. Most likely equipped with a DF-15 variant, the brigade was noted in its first training exercise in 2005. Another brigade was garrisoned in the area of Jinhua, Zhejiang Province and appeared to be fully operational by the 2005 timeframe. The brigade commander was an original member of the initial SRBM seed unit in the early 1990s.

Subsequent to filling out the Meizhou, Ganzhou, and Jinhua launch brigades, the Second Artillery established a seed unit for another conventional brigade in 2006. Initially collocated with an existing DF-21 brigade in the Anhui city of Chizhou, *Xinhua*-affiliated media reporting of unknown reliability indicates the unit, assigned an external designation of 96166, transitioned to permanent facilities in Shaoguan, the northern-most municipality in Guangdong Province in late 2010. A Second Artillery unit known to be responsible for tunneling work under the so-call "Great Wall Project" had a presence in Shaoguan since at least as early as 2008. The unit leverages the city's location along major transportation arteries and tunneling through the Nanling Mountains that divide Guangdong and Hunan provinces. Although unconfirmed, the

new brigade may be equipped with a new missile type, such as the 1000 kilometer range DF-16 MRBM. Coinciding with establishment of the Shaoguan brigade, the CMC in late 2010 also resubordinated an SRBM unit near Putian, Fujian Province (1st Missile Brigade; 73661 Unit) that had been under command of the Nanjing Military Region to the Second Artillery 52 Base.

As its SRBM force was being filled out, Second Artillery planners entered a second phase that sought to extend the range of the Second Artillery's missile force and field a rudimentary ability to strike targets on land and moving targets at sea out to 1,500 to 2,000 kilometers. The centerpiece of the Second Artillery's extended range conventional strike capability is the DF-21C MRBM, and its maritime variant the DF-21D ASBM. Launched from positions near permanent garrisons, these systems could be used for conventional strikes against targets throughout Japan, northern India, Southeast Asia, and the Western Pacific Ocean and South China Sea The terminally-guided DF-21C can deliver a 2000 kilogram warhead to a range of at least 1750 kilometers with a circular error probability (CEP) of less than 50 meters.

The Second Artillery has an operational force structure of at least five brigades equipped with a DF-21 variant. Trends indicate that some brigades equipped with DF-21A systems may have converted to a DF-31 variant, or perhaps to a conventional DF-21 variant. Standard DF-21C force structure appears to mirror that of SRBM brigades, with each brigade having six launch battalions with one or two companies each. Assuming a single launcher is assigned to each company, a DF-21C brigade could be initially equipped with 12 launchers. With conventionally-capable MRBM brigades equipped with a minimal 12 launchers, current operational effectiveness against targets in Japan, India, and elsewhere in the region may be limited. However, China's defense industrial and operational infrastructure indicates significant capacity for growth, with capacity for MRBM production having doubled. Existing brigades deployed in southeast China and currently equipped with SRBMs may convert to extended range MRBMs in the future. In addition, it is possible that subordinate battalions within at least one DF-21 unit could adopt a secondary space intercept mission.

Many of the basic technologies needed for a rudimentary maritime variant – the DF-21D ASBM -- have been in development for more than 20 years. At the core of this capability is an advanced missile-borne sensing and data processing system supported by strategic cueing from a dual-use maritime surveillance network. An OT&E unit may have been established as early as 2006, and attached to a DF-21 brigade in Yunnan province. Manufacturing facilities for solid rocket motors associated with the DF-21D appear to have been completed in 2009, followed by ground testing of the new motor and full range flight testing. The unit, which is subordinate to Base 53, moved to permanent garrison facilities in northern Guangdong province in the 2010 timeframe. The possible ASBM brigade appears to have conducted its first mobility exercise at an unspecified joint training center in early Spring 2011. China's space and missile industry has been analyzing alternatives to extend the range of the ASBM while maintaining precision.

An extended range SRBM variant (or MRBM), perhaps designated as the DF-16, could bridge the range between the SRBMs and the DF-21C/D. The CASC First Academy completed conceptual design flight tests for a two-staged conventional ballistic missile that remained within the atmosphere by the end of 2010.

In addition to MRBMs, Second Artillery is steadily expanding its LACM infrastructure. Able to penetrate defenses and strike critical targets on land, out to a range of at least 2000 kilometers, Second Artillery LACMs appear to have enjoyed a relatively high acquisition priority. LACMs are powerful instruments of military and political utility due to the inherent difficulty in defending against them. Since successful completion of operational testing in October 2003, the PLA's inventory of ground launched cruise missiles has expanded significantly. Approximately 100 LACMs enter into the operational inventory each year. Based in south-central and southwest China, two or possibly three Second Artillery GLCM brigades would be able to rapidly forward deploy in a crisis situation. Some indications exist that a submarine launch ground attack cruise missile could be in development as well, as well as an extended range LACM variant.

A third phase may extend these conventional precision strike capabilities out to a range of 3,000 kilometers and beyond. An initial capability could be available by the conclusion of the 12th Five Year Plan in 2015. At least one centerpiece is development of a conventionally-capable intermediate range missile (IRBM) system, possibly designated the DF-26. Supported by an expanding persistent surveillance architecture, the driving requirement may be suppression of air operations from Andersen AFB on Guam. A 3000-4000km range conventional system could also range targets throughout Southeast and South Asia.

Important technologies possibly applicable to multiple launch vehicles include more advanced solid motors and post-boost vehicles that adopt a "boost-glide" trajectory as a means of complicating mid-course missile defenses and extending operational range. A missile would be launched that would release a post-boost vehicle to glide and maneuver toward the intended target. Instead of flying a minimal energy ballistic flight path that takes the missile into space before returning to earth, the boost-glide missile skips in and out of near space, those altitudes between 20 and 100 kilometers. Aerodynamically configured to glide toward its target, the flight vehicle adopts hybrid characteristics of both ballistic and cruise missiles. In addition to complicating mid-course missile defenses, boost glide flight vehicles are said to extend the range of existing ballistic missiles. One study, for example, asserts that a basic boost-glide capability could extend the range of a missile by 31.2%.

A final phase may envision a global precision strike capability by 2030. Chinese industry publications indicate interests in leveraging a boost-glide capability in order to achieve global reach, similar to that carried out under the United States' Prompt Global Strike program. The

CASC First Academy, CASIC Third Academy and PLA designers have conducted feasibility studies of global post boost vehicles, and appear to believe China could overcome the technical obstacles to fielding such as system. In one study, CASC designers identified 10 key technologies needed for global precision strike.

During peacetime, conventional ballistic missile brigades are administratively subordinate to at least three corps leader (or corps deputy leader) grade entities—Base 51 (headquartered in Shenyang), Base 52 (headquartered in Huangshan), and Base 53 (headquartered in Kunming). Base 55 (headquartered in Huaihua) oversees a LACM brigade as well. Base 52 oversees the majority of these conventionally-capable missile brigades, which are capable of striking Taiwan from areas adjacent to their home garrisons. Selected conventionally-capable ballistic and land attack cruise missile brigades and support regiments, which are under direct authority of the Second Artillery corps-level bases during peacetime (eg., rather than military regions), may be allocated to a Joint Campaign Command that the CMC would establish in a contingency. The CMC chairman can be expected to retain exclusive control over the allocation of nuclear warheads through the PLA's central warhead storage and handling complex (known as Base 22), which is headquartered deep in Shaanxi's Qinling Mountains. The nuclear command and control system most likely would be separate and distinct from that of the Joint Campaign Command system.

Concluding Remarks

The PLA's growing interdiction capabilities, often referred to as anti-access/area denial (A2/AD), not only could complicate U.S. ability to operate in the Asia-Pacific region, but also give the PLA a decisive edge in securing control over the skies around its periphery should territorial disputes erupt into conflict. A conventional global strike capability would allow the PLA to reach targets deep inside continental United States territory without relying on forward bases. The PLA's growing capacity for long range precision strike provides an incentive for neighbors to shore up defenses and develop similar strike capabilities. The most effective and efficient means of defending against theater missiles is neutralizing the missile infrastructure on the ground.

The Second Artillery is expanding its infrastructure and developing an increasingly complex operational system that could give the PLA a decisive edge in securing control over the skies around its periphery should territorial disputes erupt into conflict. The ability to dominate the airspace over a given geographic domain has the potential to create instability should political disagreements flare. The more confident that a regime is of military success, the greater the chance that force could be assertively applied in pursuit of political demands. Balance and stability require that no one single power be assured of air superiority.

A strategic shift in regional aerospace balance also may increasingly unravel the fabric of U.S. alliances and prompt allies and friends to consider of weapons of mass destruction and means of delivery as a means of security. The most effective and efficient means of defending against theater missiles is neutralizing the missile infrastructure on the ground. The PLA's expanding conventional missile capabilities are influencing the development of similar capabilities in other defense establishments, including the United States. In the absence of a common set of norms governing the horizontal and vertical proliferation of ballistic and ground-launched cruise missiles, countries throughout the region are by necessity increasing investment into long range precision strike systems in order to maintain a conventional deterrent and ensure effective defense should deterrence fail.

Alternative approaches could seek initiatives to moderate Second Artillery's force posture and address underlying security dilemmas through cooperative threat reduction programs. A conventional global strike capability risks escalation since an adversary may misinterpret the launch of a missile with conventional warheads and conclude that the missiles carry nuclear weapons.

Demonstrated coercive value of the world's largest and most sophisticated arsenal of medium and intermediate range ballistic missiles creates a demand for similar capabilities around the world. Second Artillery successes in fielding advanced long range precision strike systems dilutes international efforts to stem proliferation of the means of delivery for weapons of mass destruction. This may encourage other countries to follow suit, especially as China's global leadership and standing increases.

Ballistic and ground-launched cruise missiles have long been of sufficient concern to warrant international agreements to limit their horizontal and vertical proliferation. The Missile Technology Control Regime (MTCR) and Hague Code of Conduct against Ballistic Missile Proliferation (HCOC) have both intended to stem the proliferation of unmanned delivery systems capable of delivering weapons of mass destruction.

In light of Russia's threats for withdrawal, partially due to the global proliferation of short and medium range ballistic and ground launched cruise missiles, the CCP's selection of these systems to defend its party legitimacy and coerce resolution of sovereignty and territorial claims could also undermine one of the most successful and enduring arms control agreements to date – the INF Treaty. The 1987 INF Treaty led to elimination of U.S. and former Soviet land-based ballistic and cruise missiles with ranges of between 500 and 5500 kilometers. In 2007, senior Russian officials announced a possible withdrawal from the INF Treaty unless implemented on a global basis. Opinion leaders in Moscow cited particular concern over the expansion of neighboring theater missile forces. A thorough review and modification of the INF Treaty may indeed be warranted, as well as possible alternative missile control regimes.