

Prepared Statement of
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Mr. Chairman, thank you for the opportunity to participate in today's hearing on a topic that is important to U.S. interests in peace and stability in the Asia-Pacific region. It is an honor to testify here today.

In my presentation today, I would like to address some of the challenges presented by the growing People's Republic of China (PRC) arsenal of increasingly accurate and lethal conventional ballistic and land attack cruise missiles. I will first address the perceived nature and intent of the PRC in fielding such a force, then the potential implications that deployments have had on Taiwan, the United States, and others within the region. I will wrap up my remarks with a few issues to consider as you address the PRC's growing political, economic, and military clout within the region.

Aerospace Power in Chinese Strategy

First, aerospace power is emerging as a key instrument of Chinese statecraft. Informed by universal air campaign theory and leveraging the global diffusion of technology, the PRC understands the potential role that aerospace power can play in pursuing political and military goals.

The centrality of theater ballistic and ground launch cruise missiles in PRC political and military strategy is problematic. Filling the vacuum created by the U.S.-Soviet Intermediate-Range Nuclear Forces Treaty (INF) Treaty, the PRC has relied on theater missiles to compensate for shortcomings in its conventional air forces. In addition to modernizing existing short range

(SRBM) variants, China is expanding its medium range ballistic and ground launch cruise missile infrastructure. The conventional theater missile build-up has the potential to create strategic competitions that increase the risks of conflict in the future. China's successes in fielding advanced ballistic and land attack cruise missiles also dilutes international efforts to stem proliferation of weapons of mass destruction and their means of delivery.

The People's Liberation Army (PLA) is rapidly advancing its capacity to apply aerospace power in order to defend against perceived threats to national sovereignty and territorial integrity. Large scale theater missile raids, combined with increasingly sophisticated electronic countermeasures and directed against selected critical nodes within a neighbor's command and control structure and air defense system, could produce sufficient shock and destruction to enable conventional air operations to be carried out at reduced risk and cost.

Because potential adversaries around the PRC periphery have limited countermeasures, ballistic missiles have a strong coercive effect by themselves, whether applied as part of an aerospace campaign or held in reserve. Evolving capabilities include extended range conventional precision strike assets that could be used to 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 PLA understands its current limitations. Plagued with a relatively underdeveloped aviation establishment, the PLA is investing in aerospace technologies and strategies that may offset shortcomings in the face of a more technologically advanced adversary. Because of the inherent difficulties in defending against them, conventional ballistic missiles and land attack cruise missiles (LACMs) have been an attractive means of evening the playing field.

In the near term, the PLA is focused on acquiring sufficient aerospace power to ensure an ability to attain air superiority over Taiwan. PLA analysts envision an aerospace campaign involving the coordinated use of Second Artillery conventional theater missiles, PLA Air Force assets, and electronic countermeasures as integral components of "firepower warfare." Arrayed against Taiwan are at least five short range ballistic missile (SRBM) brigades subordinate to Second Artillery, the PLA's primary strategic strike force. The number of SRBMs, widely cited as exceeding 1300 inclusive of tactical missiles assigned to ground forces, may be less relevant than how Second Artillery is organized and prepared to employ them. A brigade consists of six battalions with two companies each, with two or three launchers assigned to each company. Therefore, a combined force of five brigades theoretically could leverage between 120 and 180 mobile launchers to carry out a salvos fired from multiple axes in order to saturate or exhaust potential missile defenses and paralyze airbases and other military infrastructure. Initial missile raids would create a permissive environment for follow-on conventional air strikes.

Beyond Short Range Ballistic Missiles

However, Second Artillery is moving beyond SRBMs. In order to extend the range of its strategic firepower, Second Artillery has established and is expanding its infrastructure of conventionally-capable DF-21C medium range ballistic missiles (MRBMs) and DH-10/CJ-10 ground launched cruise missiles (GLCMs). Today, China's space and missile industry is reportedly producing MRBMs at a limited rate. However, China's space and missile industry and Second Artillery's MRBM infrastructure, with as many as three conventionally-capable

launch brigades established, appears able to accommodate a significant growth. At the same time, the space and missile industry is reportedly producing as many as 100 new LACMs a year for Second Artillery and probably the PLA Air Force (PLAAF). Second Artillery today has as many as three GLCM brigades home based in southwest China with forward deployment facilities in the southeast part of the country under construction.

The space and missile industry also is developing an MRBM variant that could be capable of engaging naval combatants. Barring deployment of effective defenses, an anti-ship ballistic missile (ASBM) may give the PLA a precision strike capability against aircraft carriers and other naval vessels operating in the Pacific Ocean and South China Sea within 1500-2000 kilometers from the coast of China. Manufacturing facilities for solid rocket motors associated with an initial ASBM variant, designated as the DF-21D, were completed in 2009. Flight testing of the new motor and airframe is reportedly underway. Integrated flight testing of the airframe, motor, guidance, navigation, and control system against a target at sea likely would be the final step in the design certification process. At least one brigade likely has been earmarked for initial introduction of the maritime variant of the DF-21 into Second Artillery.

Follow-on ballistic and cruise missile variants incorporating more sophisticated trajectories and missile defense countermeasures could extend the PLA's conventional strike capability out to Guam. Chinese technical writings indicate interest in conventional global precision strike capability over the longer term. In short, as PLA theater missiles incorporate more advanced inertial and satellite aided navigation systems, sophisticated terminal guidance systems, and increasingly powerful solid rocket motors, the accuracy and range of the PLA's conventional strike capability is expected to improve significantly over the next 10-15 years.

Conventional Air Modernization

While Second Artillery has expanded significantly, PLAAF modernization has progressed at a modest pace. The PLAAF's long term vision is to be able to conduct an independent aerospace campaign to achieve decisive strategic effects. Such a goal should not be surprising. Since publication of Giulio Douhet's *Command of the Air* in 1921, airpower proponents have envisioned the transformation of warfare through long-range strategic strikes. PLAAF representatives argue in favor of gradual transition from a supporting service responsible to ground forces for defensive counterair missions and close air support, to joint operations, and finally to a fully independent service able to conduct strategic strike missions at extended ranges. According to one assessment, the PLAAF had set a goal to be able to win an independent air campaign within a 1000 kilometer radius around China's periphery by 2010 – one that has not been successful to date – and extend the range to 3000 kilometers by 2030.

Given resource constraints and the overlap in the core mission of strategic strike, the rapid rise of the conventional Second Artillery may have contributed to the relatively modest pace of PLAAF modernization. Another possible constraint has been limitations of China's aviation industry and corresponding reliance on foreign procurement of key systems. Nevertheless, over the coming decade, an increasingly advanced aviation industry may be positioned to better support the PLAAF's vision of becoming a world-class service capable of conducting an air campaign independent of Second Artillery.

To close the gap between its doctrinal aspirations and capabilities, the PLAAF has made significant investments into force modernization over the last 20 years. Guided by the development strategy of “integrated air and space” and “combined offense and defense,” senior PLAAF leaders note that required capabilities include the capacity to carry out long range precision strike, an ability to attain local or limited air superiority, stealth, “full spectrum” air and missile defense, new “trump card” weapon systems, long range airlift, and unmanned aerial vehicles. As PLAAF Commander Xu Qiliang argued in a recent media interview, integrating air and space operations is needed to ensure strategic dominance on the sea and ground.

With a long term outlook in mind, the PLAAF is gradually improving its capabilities. The PLAAF has procured new multi-role fighters, invested in sophisticated ground-based air defenses, upgraded existing airframes, procured airborne early warning (AEW) and aerial refueling capabilities, and introduced advanced electronic attack systems, including anti-radiation systems capable of suppressing air defense radar systems. It also has refurbished its strategic bomber fleet and procured an air-launched variant of the 2000-kilometer range DH-10 LACM.

Enabled with aerial refueling, supported by initial Second Artillery firepower, and direction from airborne early warning assets, the PLAAF is improving its ability to conduct interdiction missions at extended ranges around China’s periphery. Over time, PLAAF capabilities are likely to expand more rapidly than in the past. Senior officers have outlined PLAAF intent to procure a next generation fighter over the next eight to 10 years. Investments are being made into fielding an advanced active electronically scanned array (AESA) radar, and the PLA General Armaments Department has formed a dedicated expert working group aimed at achieving breakthroughs in stealth technology. China’s defense industry is investing resources into designing and developing means of jamming U.S. Joint Tactical Information Distribution System (JTIDS)/Link 16 networks and Global Positioning System (GPS) satellite signals.

In short, the PLAAF is making modest progress in developing advanced capabilities with an eye toward expanding its operational range. The ability to carry out strategic strike missions at ranges of 3000 kilometers or more is viewed as the key to becoming a truly independent service, rather than one dependent on Second Artillery or in support of the ground forces. Despite the PLAAF’s aspirations to develop a force capable of an independent air campaign around China’s periphery, senior PRC political and military authorities likely will continue to rely on Second Artillery for coercion, strategic strike missions, and suppression of enemy air defenses for some time to come.

Regional Sensor Architecture

The PLA’s ability to conduct strategic and operational strike missions is likely to be bounded by the range of its persistent surveillance. To expand its battlespace awareness, the PLA is investing in at least four capabilities that could enable it to monitor activities in the Western Pacific, South China Sea, and Indian Ocean. These include near space flight vehicles, operating at the upper extremes of the atmosphere, may emerge as a dominant platform for a persistent regional wide surveillance capability over the next decade. Increasingly sophisticated space-based systems also could expand the PLA’s battlespace awareness and support strike operations further from Chinese shores, as could more advanced conventional long endurance unmanned aerial vehicles. In addition to space-based, near space, and airborne sensors, PLAAF

over the horizon (OTH) “skywave” radar systems able to monitor maritime activity out to 3000 kilometers also would be a central element of an extended range air and maritime surveillance architecture.

The PLA’s expanding sensor architecture is an integral component of China’s evolving concept for integrated air and space defense. The PLA is modernizing its air and space defenses by procuring advanced foreign surface-to-air missile systems, investing in research and development of indigenous air defense systems. Integrated air and space defense also includes an ability to counter foreign space-based surveillance and ballistic and land attack cruise missiles. After outlining a 15 year three-phase missile defense development plan in 1996, China’s space and missile industry conducted successful tests in January 2007 and January 2010, thus demonstrating an ability to intercept satellites in low earth orbit and rudimentary medium range ballistic missiles during the mid-course of their flight.

Implications for Strategic Stability

In summary, the Asia-Pacific region is in the midst of fundamental change with implications for strategic stability. The gradual expansion of China’s long range precision strike capabilities, especially its increasingly sophisticated conventional ballistic and ground launched cruise missiles, is altering the strategic landscape. Due their speed, precision, and difficulties in fielding viable defenses, these systems – if deployed in sufficient numbers – have the potential to provide the PRC with a decisive military edge in the event of conflict over territorial or sovereignty claims. However, more importantly, the reliance on ballistic and extended range land attack cruise missiles incentivizes other militaries to develop similar capabilities.

Following the PRC’s example, a number of militaries in the region have deployed or are developing extended range land attack cruise missiles. The most noteworthy include Taiwan, South Korea, India, and Pakistan. In 2007, the Russian Federation publicly announced the possible withdrawing from the INF Treaty, in part due to the proliferation of systems that the agreement currently restricts. In general, the central role that advanced ballistic and land attack cruise missiles play the PRC’s political and military strategy dilutes international efforts to stem proliferation of the means of delivery for weapons of mass destruction.

To address the challenge, a two track approach may be worth considering. First is to maintain or develop the means to undercut the political and military utility of the PRC’s theater missile-centric strategy. Investing in U.S. capabilities best able to counter PRC advances in long range precision strike assets is key, as is supporting modernization efforts of our allies and friends. However, rolling back the missile problem arguably starts with Taiwan. The potential for PRC coercive use of force to resolve political differences with Taiwan has and likely will remain the primary flash point in the region. It is also the contingency that most likely to bring the U.S. and China into armed conflict, as well as others in the region.

With the foregoing in mind, a relative erosion of Taiwan’s military capabilities could create opportunities and incentives for Beijing’s political and military leadership to assume greater risk in cross-Strait relations, including resorting to force to resolve political differences. Furthermore, a useful political threat, such as the one Taiwan ostensibly poses the Communist Party of China, helps justify defense budget increases in a resource constrained bureaucratic environment and allows for an accelerated pace of modernization without causing excessive

alarm from others in the region. Therefore, a U.S. policy containing a mix of positive and negative incentives intended to encourage Beijing to draw down its SRBM infrastructure opposite Taiwan.

A second track could involve cooperative threat reduction programs, including greater support for Russian calls to globalize the INF Treaty, which eliminated U.S. and former Soviet ballistic and ground launch cruise missiles with ranges of between 500 and 5500 kilometers. It is useful to note that the PRC's conventional theater missile build up fill the vacuum created by the INF Treaty. Existing frameworks for controlling missile proliferation, such as the Missile Technology Control Regime (MTCR), have been insufficient in halting or reversing proliferation. Alternatives to a global INF Treaty exist, including an international missile test ban agreement or revisions to the MTCR. Regardless, undercutting the political and military utility of land based ballistic and ground launched cruise missiles could help enhance strategic stability in the Asia-Pacific region.