Prepared Statement

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Vice Chairman Shea and Commissioner Tobin … thank you for the opportunity to participate in today's hearing on an issue that is vitally important to U.S. national security interests in the Asia-Pacific region. It is an honor to testify here today. The evolving nuclear forces, plans, and policies of the People's Republic of China (China for short hereafter) presents a number of significant challenges for the United States, allies, and friends in the Asia-Pacific region. In my presentation this morning, I will briefly outline the status of China's nuclear forces, especially theater nuclear forces, but will focus on addressing its possible escalation philosophy and options.

China's Nuclear Weapons Trajectory

The People's Republic of China has progressed through several phases with respect to its nuclear posture. These phases have been well documented in the literature, and so I will only summarize them here. In the Mao and Deng eras, the emphasis was on developing the ability to threaten delivery of nuclear weapons upon a few major cities of either superpower in order to deter nuclear blackmail. (1) The posture was one of minimum deterrence, and the "no first use" policy made strategic sense within the context of a "people's war," while also making a virtue of a fiscal, societal, and technological necessity. (2)

In the Jiang era, there was a renewed emphasis on survivability and reliability, as adversaries developed conventional forces that might put the liquid-fueled, second-strike ballistic missile force at risk in crisis and conflict. Gulf War I put PRC leadership on notice that their silo-based DF-5 force was vulnerable to a conventional disarming strike. This era saw the rise to prominence of the solid-fueled ballistic missile within China's forces … opening the way also for thoughts of rapid regional power projection. The posture underwent a subtle shift from minimum deterrence

to what the 2006 defense white paper referred to as "Lean and Effective," (3) and some have called either "sufficient and effective" or "dynamic minimum deterrence." (4)

In the Hu/Xi era, China's rise to power has accelerated, and its sovereignty claims, military forces, and Psyche of centrality have expanded in proportion. Newly achievable regional and global ambitions, together with continued military evolutions in the United States, have required a reassessment of the military tools needed, which in turn has given rise to a subtle but critical evolution in the nuclear posture. In this current era, while there is nominal adherence to the "no first use" policy, there has concurrently been an emphasis on both expanding credible theater nuclear forces and establishing truly secure, penetrating, second-strike forces. While the latest Defense Report on the Military Capabilities of China states that, "China will likely continue to invest considerable resources to maintain a limited, survivable, nuclear force (sometimes described as 'sufficient and effective") to ensure the PLA can deliver a damaging retaliatory nuclear strike," (5) this probably only addresses half of China's objectives. Instead, to capture both strategic and theater developments, I would label this latest evolution more descriptively as a Secure regional deescalatory posture.

Nuclear Force Developments:

The dual thrust of both theater options and secure second-strike forces is clearly demonstrated in the types of forces that are coming on line currently. I will give a brief survey of many these systems and forces here, (6) but there are others inside and outside of the U.S. Government who can speak more definitively to high fidelity descriptions and accurate force numbers.

In line with china's desire to solidify a truly secure, penetrating, second-strike force, it is pursuing new capabilities along each leg of a nuclear triad: Intercontinental Ballistic Missiles (ICBMs), Strategic Ballistic Missile Submarines (SSBNs), and Long-range bombers. In the first category of ICBMs, China is currently producing or developing several solid rocket missile systems. Over the past decade, China has been producing DF-31 and DF-31A ICBMs to augment its small DF-5 silo-based force. While the modest DF-31 force only barely reaches CONUS, China's production focus has been the DF-31A, which can range almost all of CONUS from launch areas in China. Beyond the DF-31A, though, China has also embarked upon two other developmental programs: the DF-31B and the DF-41. The attributes of each of these missile systems remain somewhat uncertain, since unlike the open and treaty-bound United States, China rarely reveals details of its strategic missile systems. That said, open source media accounts identify five possible attributes of these new missile programs that emphasize enhancing either survivability or penetrability: multiple reentry vehicles (whether independently-targetable or not), reentry maneuverability, greater accuracy, greater range, and robust overland mobility (vice road-constrained). (7-10)

These latest developments position China's strategic forces to evolve along a trajectory that may well allow for significant up-load potential in terms of numbers of reentry vehicles. The Chinese ICBM force, rather than being delivery vehicle limited, might become fissile material limited in the near future.

A final development in the intercontinental missile force is the PRC's pursuit of a hypersonic glide vehicle delivery of nuclear warheads, the WU-14. Just last year, the PRC conducted three test flights of this new developmental system. (11) Of course, such an HGV system would give the PRC the capability for deep, effective, conventional CONUS strikes, and that may well be the primary rationale for development. Adapting a nuclear warhead for those types of extended hot environments would not be trivial, but this new developmental system highlights penetrability, a key attribute for the future strategic nuclear force. High confidence penetrability opens up its possible inclusion in a nuclear force that emphasizes credible and assured retaliatory strike, even in the face of missile defenses.

China's progress in the area of sea-based strategic forces, with the Type 094 SSBN and its associated JL-2 SLBM, has been well characterized by the U.S. national security community. With an expected fleet of five SSBNs, a size implying continuous at sea deterrent objectives, the survivable second strike force gains valuable resiliency. Nevertheless, given that the 094 is still too noisy to confidently avoid detection and the JL-2 only has a range of about 8000 km, the PRC is also embarked upon the development of both a new SSBN, type 096, and a new associated longer-range missile, the JL-3, longer range and possible MIRVed. (12-13)

While the PLAAF was the first Service to acquire deliverable nuclear warheads, in the form of gravity bombs, it is unclear whether any gravity bombs remain in the arsenal. Of course, if gravity bombs do not remain, the large amount of fissile material that these first inefficient warheads incorporated would have been recycled years ago for use in modern, smaller, more efficient warheads.

Three important developments in the air leg of the Chinese Triad are of note today, though: H-6 modernization, DH-10/CJ-10 production, and stealth bomber development. From the perspective first of strategic strike, the development of a B-2-like stealth bomber along with a long-range refueling platform (a modified H-6, reportedly), would give the PRC a survivable (when dispersed) global-range, flexible, recallable, visible, penetrating nuclear force. Such a force would give PRC leadership a multitude of new and important employment options at both the non-strategic and the strategic/non-cataclysmic level of escalation, as well as the capability to usefully reserve large numbers of weapons for re-strike or for hedging purposes. Such Long-range Stealth capability would also require an investment by the United States in much more capable detection and air defense systems, thus imposing strategic costs on us.

The modernized H-6K would carry a new air-launched version of the DH-10 ground launched cruise missile, the CJ-10. While the vast majority of DH-10s produced to date (and that number is now in the many hundreds) are conventional and to be employed in a precision conventional theater counter-military campaign, it is likely that at least some small number of them have been reserved to carry nuclear warheads. (14-16) The principal thrust for a nuclear DH-10/CJ-10 force, whether ground or air (or naval) launched would not be strategic strike, of course, but precision theater nuclear strike, much as was the conceived functionality of the U.S. GLCM in the 1980s.

Finally, from a theater nuclear strike perspective, there is the most recent additions to the DF-25/26 force. If any of the variants of these missiles are nuclear, as is widely held, (17) the high accuracy puts them into the same functional category as the U.S. Pershing-2 MRBM of the 1980s ... that is, highly survivable, extremely rapid, high precision theater nuclear strike. These systems would allow for a variety of in-theater nuclear escalation options, and those options would be even more

greatly enhanced if any of the warheads allocated to these missiles had low yields, on the order of sub-kiloton or single-digit kilotons.

Additional possible nuclear weapons are possible, though only implicated by association in open media. For example, the Kilo-class subs that China bought from Russia are capable, if modified modestly, of launching nuclear-armed anti-ship cruise missiles, in accord with historic Russian doctrine and practice. Do such cruise missiles exist in China? We simply don't know. Again, there is the possibility that the ballistic missile defense system that China is developing could employ nuclear-tipped interceptors. The terminal engagement solution would be far less demanding, particularly against maneuvering reentry vehicles, and the analogous Russian system is at least partially nuclear. So, is the Chinese system also nuclear? Again, we don't know. Reports of enhanced radiation warheads on SRBMs (by Zhao Xijun, former deputy commander of Second Artillery, for example) and EMP applications have also been raised. (18) Our definitive knowledge of the types of nuclear warheads and weapons comprising China's arsenal is quite sparse. In fact, there is such a dearth of transparency and reliable, complete open source information that scholars even continue to debate whether the PRC retains nuclear gravity bombs.

China's Evolving Doctrine and Policy

Perhaps more important than the issues of the types and numbers of nuclear forces that the PRC is acquiring and deploying are the issues surrounding when, how, why, and against what targets these forces might actually be employed in an evolving conflict. These more ephemeral issues have historically been much more difficult for the U.S. national security community to address with confidence. These are the issues to which I'd like to turn my attention now.

In the first place is the issue of the No First Use pledge (NFU hereafter). There has been a considerable amount of debate devoted to this topic over the course of the past few years, and I will not review it all here. Suffice it to say that even the United States holds to a "No First Use" hope, encapsulated in the NPR statement, "the United States wishes to stress that it would only consider the use of nuclear weapons in extreme circumstances to defend the vital interests of the United States or its allies and partners." (19) The state of the debate in China on this issue is not completed known, but it is unlikely that China will walk away from this declaratory pledge anytime soon, since the political costs greatly outweigh the deterrent gains. The real question, therefore, is whether the PRC holds to this doctrine in its most secret of plans, or there is a gap between declaratory policy and war planning, as there has been at times in our own history. Obviously, it is not possible to know this from open source information. In light of a number of statements that will be sampled below, some made in official doctrine, war planning does <u>not</u> seem in accord with strict NFU. Particularly, we would expect that any break with NFU would come under very stressful conditions and would likely consist of theater nuclear strikes.

Before addressing the regional deescalatory posture, though, backstopping all is the continuing and augmented secure second-strike force. Historically, China has only seen the need to credibly threaten the destruction of some number of its adversaries' major cities. As Deng put it, "if you want to destroy us, you will face some retaliation." These major targets would be chosen for their

military, political, and symbolic value. While this is a level of escalatory intensity that is almost inconceivable, China must assure its adversary that the threat is entirely credible, hence the continued emphases on both survivability (road mobile, sea-based, and, eventually, dispersed air forces) and penetrability (maneuvering, multiple reentry vehicles, stealth, and hypersonics). This credible, robust, resilient strategic force assures a catastrophic second strike on the U.S. or Russian homeland, in spite of prior adversary counterforce strikes and missile defenses. This primary role of secure second strike is why there is such an emphasis in Second Artillery training on operating under the grim conditions of a nuclearized environment. (20)

The primary thrust of recent developments in the Chinese nuclear arsenal, though, may well be the establishment of regional escalatory dominance. While the PLA has never officially named their nuclear posture, nor does it discuss "deescalatory nuclear strikes" as do the Russians, similar thinking lies behind what the PRC is trying to accomplish with its rapidly diversifying and strengthening theater nuclear forces.

As a caution, however, escalatory dominance should not be thought of in a warfighting sense. In fact, the escalation philosophy upon which China's deterrence is generated is psycho-political rather than warfighting. Put another way, the PRC looks at deterrence not so much as the U.S. Looked at deterrence in the 1960s and 70s, but more in accord with how France looked at deterrence in the Cold War. That is, rather than being used in a warfighting fashion intended to defeat the adversary on the battlefield, nuclear weapons would be used in the high intensity political management of an escalating and perhaps unsustainable conflict.

A few examples from recent writings and doctrine are illustrative of this thinking. "When we are under the pressure of circumstances to use military force to reunify the motherland's territory, we may even lower the threshold of using nuclear weapons to deter intervention by external enemies." (21) "When conventional warfare continues to escalate and the overall strategic situation is extremely unfavorable to us, and when national security and survival are seriously threatened, in order to force the enemy to stop its war of invasion and save the country from danger, the nuclear missile units should follow the orders of the supreme command and carry out effective nuclear deterrence against the enemy." (22) The Second Artillery should be capable of "carrying out a number of waves of nuclear missile strikes after initial nuclear strikes … in order to maintain the huge amount of pressure and psychological fear against the enemy." (23) Certain conventional attacks would "be seen as breaking the nuclear threshold," with the result that China "will find it difficult to refrain from a nuclear counterattack." (24) Nuclear strikes against focal points are aimed at "stopping the enemy at the first opportunity." (25)

The escalation dynamics within the context of a psycho-political escalation philosophy are characterized by non-nuclear operations punctuated by nuclear employment to achieve deescalation on terms favorable to the employer. In the case of China, an early terminal nuclear deescalation attempt accords well with the axiom of winning without fighting. The lower the stakes for the U.S., the less likely the U.S. will remain in the fight, and the stakes are never lower than at the very outset of conflict, prior to large-scale destruction and casualties. Such an early terminal deescalation attempt would likely take the form of a no- or ultra-low-casualty, possibly ambiguous first employment. A couple of examples might be the following: an EMP burst over a carrier battle group, a fall-out-minimizing air-burst in the vicinity of Guam, or even a nuclear ASAT strike against a single non-NC3 GEO asset.

Failing that first deescalatory attempt, other nuclear punctuations would follow, as intimated in the SSAC doctrinal document, again within the context of an otherwise non-nuclear, high-intensity conflict. The second punctuation might be a very selective employment of several nuclear weapons in the region against purely military targets, such as an EMP followed by direct strike against a carrier, a low yield strike on Andersen AFB, or enhanced radiation bursts on military assets near a Taiwan beachhead (which the PRC claims as its own territory). Follow-on deescalatory attempts would likely be of a more politically painful type: perhaps a single ICBM strike on Ft. Greely, Diego Garcia (causing complications with allies) or even Naval Base San Diego (since mainland China will likely have already been struck deeply and repeatedly).

The obvious implication for the United States is that the PRC may escalate across the nuclear threshold at a time and manner, and for a purpose, that we do not expect. Such an eventuality would put not only U.S. Forces at grave risk but also leave U.S. leadership, and the President in particular as the sole authorizer of nuclear employment, in an unenviably unprepared position. In this way the PRC will seek a terminal deescalation of the conflict through selective theater employment of its maturing non-strategic nuclear force. While we cannot expect an adversary to adhere to our own logic in escalation philosophy, the real danger comes from assuming that the adversary <u>does</u> share our logic when it <u>does not</u>. That unexpected asymmetry of escalation philosophy could be decisionally crippling in an unfolding conflict.

Though many scholars might claim that characterizing China's evolving nuclear policy as a secure regional deescalatory posture is over aggressive, it seems to fit the recent trajectory. China's recent strategic trajectories have historically been underestimated by most U.S. Scholarship. A few notable examples include: development of a blue water navy; debris-generating testing of an anti-satellite weapon; development of national missile defense; MIRVing ICBMs and SLBMs; incorporation of stealth technologies and development of a new strategic bomber; and keeping some fraction of nuclear warheads generated rather than in storage. Indeed, this underestimation of PRC military ambitions and intentions began at least as early as its unexpected, albeit not unwarned, entry into the Korean War.

Possible countermeasures that the United States might take to oppose the prospect of imposed nuclear deescalation include, but are not limited to: adequate planning for appropriate response options to China's crossing the nuclear threshold; exercising CONUS-based theater nuclear operations in the pacific to assure allies; publicly considering the reintroduction of non-strategic nuclear forces into the Pacific theater; diplomatically pressing the PRC to enter into the INF Treaty, or perhaps a slightly modified version of the treaty; declaring that <u>any</u> employment of a nuclear warhead will be met with a proportional response; etc.

Another strategic outcome from the continued expansion of the Chinese nuclear force, hinted at in the preceding paragraph, regards assurance of our Asia-Pacific allies. As the United States debates the merits of further reductions, the possibility of going from our resilient Triad to a dyad, and the desire of some to pull B61s out of Europe, our Asia-Pacific allies see a very different trajectory and resolve in the PRC. While the U.S. Currently holds a significant numeric superiority in strategic weapons, in the area of theater nuclear weapons, which are in fact more credible, the PRC enjoys a decided and growing advantage in both numbers and types of weapons. This asymmetry has been disconcerting to our partners, particularly Japan and Taiwan. Though this imbalance can be creatively mitigated by the planned employment of other nuclear forces, if this asymmetry continues and grows further, it may well result in either or both of these partners reconsidering the

possibility of independent nuclear weapon acquisition, citing in particular China's trajectory as being directly counter to Article VI of the NPT.

Finally, as briefly mentioned above, various scholars and pundits in the United States have suggested that the U. S. Might trim our nuclear forces by eliminating the ICBM leg of the Triad. This foolhardy suggestion would result in a dyad that almost irresistibly incentivizes the PRC to both develop strategic antisubmarine capabilities and plan to execute a devastating disarming first strike unexpectedly early in a conflict. While that scenario may be difficult to imagine, any war with China is a very uncomfortable thought. Such a first strategic strike would only have to consist of some dozen precision HGV nuclear strikes on CONUS, together with anti-sub strikes at sea. The results of such a relatively small strike would be disproportionally devastating - few or no remaining deliverable U.S. nuclear weapons. Without both the enormous escalation potential imposed and warhead sink represented by a distributed, extensive missile field, the United States could be put in an incredibly precarious position, and our partners would seriously and rightly consider going nuclear themselves.

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