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Thank you for the invitation to be here today.

Today, I would like to address the question “how is China’s military training and operational capability developing?” and focus primarily on the nearly 70 percent of the PLA found in the ground forces.

While now even the Chinese government officially acknowledges priority of development is given to the PLA Navy, Air Force, and Second Artillery, as in the other services a comprehensive ground force and joint training regimen has been accelerated in the years since 1999. This acceleration was the result of several factors:

- 1) The requirement levied upon the PLA by the civilian leadership to increase its capabilities to a) deter Taiwan from further steps toward independence and b) if necessary, to coerce Taiwan to the negotiating table or defeat it in battle, even if Taiwan were to be supported by “foreign forces,” i.e., U.S. intervention.
- 2) The impact of economic development in China that a) permitted significantly more funds to be allotted to the PLA and b) greatly improved PLA command, control, communications, and computer capabilities through acquisition of mostly Chinese-manufactured communications and electronic equipment supported by an infrastructure of optical fiber, microwave, satellite, and wireless communications systems.
- 3) The confidence that the international security environment had changed sufficiently to allow strategic focus to be directed toward the Taiwan Strait. In other words, Beijing was finally satisfied the former threat from the USSR/Russia no longer required a major focus by the Chinese military. This realization is mostly clearly evident in the fact that the Shenyang Military Region felt the greatest impact of force reductions since 1997. The corollary to this situation was a cash-hungry Russia was more willing to sell more advanced weaponry to a China with more money to spend (due to economic development), supercharging a trend begun in the early 1990s.
- 4) The reduction in personnel strength of the PLA by approximately 23 percent with simultaneous emphasis on the development of an NCO corps and improving the educational level of the officer corps. Increased resources now available to the PLA can be focused on a considerably smaller force.

5) Last, but certainly not least, the promulgation in 1999 of a new set of training regulations, which outline doctrine and procedures for the PLA to “prepare for military struggle.” The related, new Military Training and Evaluation Program, which became effective in 2002, sets standards for all units and is further refined by annual training guidance issued by the General Staff Department for the PLA in general and the Military Regions and services.

My statement today is based almost exclusively on reading the Chinese press and official Chinese documents. I have used no classified U.S. material, nor have I had the opportunity to observe PLA training or interview PLA officers since 1999. Nevertheless, I believe that through close examination of open source material it is possible to understand general trends in training and much of its content. However, using only Chinese sources, it is less feasible to make definitive judgments about specific units and capabilities, especially relative to the capabilities of other armed forces. Therefore, I will not attempt to make any sort of net assessment of cross-Strait military capabilities.

Nonetheless, based on my own personal experience both in the U.S. Army and observing the PLA a decade ago, I will provide my *impressions* of the state of ground force training: In short, the PLA is a good student of other militaries and understands in theory the complexities of modern war. It has developed a doctrine that integrates lessons learned from other countries’ recent military experiences and adapts these to the unique conditions in China. From what I read and see on Chinese television, at this point in time, most PLA training is still relatively rudimentary in nature, reflecting their efforts to combine optimally the new weapons and equipment, new doctrine, and the new caliber of personnel available since 1999. They realize this is a complex task and understand there are no shortcuts or “silver bullets” to achieving combat effectiveness. The PLA leadership has a two-decade plan to continue its modernization and transformation process (and I believe 15-20 years is a reasonable timeframe to approach achieving the goals the PLA has set for itself). However, if ordered by the government and party before it has completely achieved its modernization goals, the PLA will follow the commands of China’s civilian leadership and utilize its best units in the most appropriate way, supported by a large civilian effort, to achieve the political and military goals assigned.

Though the focus of this hearing is on the Taiwan Strait, in fact, PLA ground force training emphasizes the entire array of missions it may be called upon to conduct “to defend national sovereignty and territorial integrity” – this includes defense of its land borders as well as its maritime claims. I have no doubt the Chinese assume the mainland will be the target of long-range attacks in future conflicts and defending against this threat and recovering afterwards is a major theme in nearly all training. They also are aware of the need to defend against the threat of terrorism.

In April 2000, the army paper, *Jiefangjunbao*, clearly highlighted recent training priorities. These priorities were then continued in exercises reported over the next five years:

- Nanjing and Guangzhou Military Regions have concentrated on amphibious operations;
- Beijing, Shenyang, and Jinan Military Regions have stepped up long-range mobility and rapid reaction; and
- Lanzhou and Chengdu Military Regions explored cold weather operations on plateaus.
- In general, explore and intensify training on:
 - Air defense operations
 - Information war
 - Amphibious landings
 - Joint operations, and
 - The new “three strikes, three defenses” (strike at stealth aircraft, strike at cruise missiles, strike at helicopter gunships; defend against precision strikes, defend against electronic jamming, defend against reconnaissance and surveillance)

This list was augmented after 2001 with “anti-terrorist” training and heightened emphasis on nuclear, chemical, and biological defense. Disaster relief training has also been added to unit training programs.

Not only have active PLA ground forces increased the intensity of training since 1999, so, too, have reserve and militia forces stepped up their training. Civilian support increasingly is integrated into PLA operations. Reserve and civilian support is often coordinated using the mechanism of the National Defense Mobilization Committee system and its expanding web of civil-military command posts. Reserve, militia, and civilian support is particularly important to PLA logistics and armament support functions. The concept of People’s War, especially the mobilization of the population and its emphasis on the use of speed, stealth, stratagem, and deception, remains relevant to future PLA campaigns. People’s War is still considered a “magic weapon” for the weak to defeat the strong.

Before discussing some of the content of recent PLA ground force training, I would first like to highlight a few training techniques common throughout the force.

- Experimentation is a major characteristic of PLA training activity. “Pilot” units are assigned tasks, such as night, high-altitude, or various other aspects of joint operations, to explore and report their findings. Innovation is encouraged and many units conduct experiments on their own, including modification of tactics and equipment, such as building command vans and creating computer programs to assist command and control. The results of experiments are reviewed and, if applicable, may be promulgated throughout the force. Many “good ideas” on paper do not pan out in practice and many experiments are discarded.
- Over the past 15 years or so, opposing force training or Red versus Blue force confrontational, free-play exercises have become common in all services. Many units have created permanent Blue (or enemy) forces, which are often equipped

with the most advanced weapons and attempt to emulate foreign tactics and techniques. Opposing force training is commonly used by air defense units (both in the ground and air forces) and flight units. Some units (often in different services) have established “habitual relationships” to train with each other. Like the U.S. experience at the National Training Center at Fort Irwin, the “enemy” often wins these confrontations enabling the friendly force to better examine its strengths and weaknesses.

- With the widespread introduction of computers and internet connectivity throughout the PLA, units have constructed training halls to conduct in-garrison computer and simulation training. Long-distance computerized war games are reported in addition to using computers for learning, especially for new equipment training. Driving, firing, and maintenance simulators have been developed for many types of equipment with the goal of keep training costs down and wear and tear on equipment to a minimum. Many simulators still appear to be rather basic. Sand table exercises and command post exercises by headquarters elements without troops in the field are also commonly reported.
- In recent years large units have gone to the field for extended training, sometimes lasting two or more months. Units often conduct “progressive training,” moving from individual tasks (like swimming or marksmanship) to small unit (platoon, company, and battalion) training to larger combined arms or joint training at regiment and higher level. These training periods often culminate in individual and unit evaluations and live fire practice. During extended deployments away from home base, units learn to live in the field and sustain and maintain the force in austere conditions. Long deployments are real-world tests of logistics and armament organizations at varying levels.

Joint and Combined Arms Training and Integrated Joint Training. Since this round of PLA modernization began in 1979, improving joint operations and combined arms capabilities has been a major training emphasis. By the middle of the first decade of the 21st century, joint and combined arms training exercises conducted over extended periods in remote locations have become common for ground force units in all Military Regions. Rapid assembly and deployment and air defense are among the most frequently practiced tasks by all PLA units; camouflage techniques and NBC defense are also practiced frequently. As the PLA’s electronics and communications capabilities increase, information operations have been incorporated into most training scenarios. Information operations commonly reported in exercises include rapid, secure transmission of orders and data among friendly forces; intelligence collection using various technical means, such as UAVs, battlefield radars, and tactical imaging systems; protection from enemy attacks on friendly command and communications systems; use of information to influence the enemy through propaganda and psychological warfare; and the offensive and defensive employment of electronic warfare against enemy systems.

Each Military Region has established a combined arms training center into which units at regimental level and above rotate for training and evaluation. These training centers are located at:

- Zhaonan, Jilin for the Shenyang Military Region
- Juhr (also known as Zhurihe), Inner Mongolia for the Beijing Military Region
- Yongning County (Helanshan), Ningxia for the Lanzhou Military Region
- Queshan, Henan for the Jinan Military Region
- Sanjie, Anhui for the Nanjing Military Region
- Luzhai in Lusai County, Guangxi for the Guangdong Military Region
- Xichang, Sichuan for the Chengdu Military Region

In addition to combined arms training bases, regional training areas and live fire ranges for armored and artillery training are also found throughout the country. Individual divisions, brigades, and regiments have their own local training areas and firing ranges, which often include facilities for amphibious operations even when located away from the coast. Nonetheless, as the PLA ground force modernizes, PLA commanders recognize the need for more training areas where all aspects of joint operations can be practiced.

Chinese sources identify four major amphibious training areas at Dongshan and Pingtan islands in Fujian province, Zhoushan island in Zhejiang province, and Shanwei near Shantou in Guangdong province. PLA Navy marine brigades practice amphibious operation on the Leizhou peninsula in Guangdong near their bases at Zhanjiang. From the combined Chinese-Russian exercise “Peace Mission 2005,” we now know that Weibei in Shandong province can also be used for amphibious training.

Joint and combined arms training certainly has become more realistic and more complex over the decades; however, PLA leaders still see a gap between their operational goals and the actual level of many training exercises. Perhaps the most striking indication of this training shortfall was the creation and widespread use of the term “integrated joint operations” in 2004. “Integrated joint operations” generally is a reminder of the necessity to incorporate all types of units (ground, naval, air, missile, logistics, and armament support) and battlefield systems (intelligence, reconnaissance, communications, electronic warfare, fire support, etc) into operations while treating each element equally in planning and execution. In other words, it means REALLY joint operations, not just exercises where different units are in the same general area conducting independent tasks at the same time. Along with the use of this term, several large areas known as “coordination zones” have been established in the various Military Regions in which forces from the various services may interact during training.

Amphibious Training. Large-scale amphibious operations were not a major emphasis in the first decade and a half of the PLA’s modernization program. During the 500,000-man reduction from 1997 to 2000, one ground force division in the Guangzhou Military Region (the former 164th Division) was transferred to the PLA Navy to become the second marine brigade. Starting in about the year 2000, the 1st Motorized Infantry Division in the Nanjing Military Region and 124th Infantry Division of the Guangzhou

Military Region were issued new equipment and transformed into amphibious mechanized divisions. Since 2001, these two amphibious mechanized divisions have been given priority for training and, along with other regional units, have deployed to amphibious training areas for extended periods of time from the late spring to early fall.

Entire brigades and divisions have deployed for up to three months to conduct training from small unit level up to joint army-navy-air force amphibious landing operations controlled by group army or Military Region headquarters. Infantry and armored brigades and divisions are often joined in training by group army and Military Region assets, such as artillery, air defense, AAA, helicopter, engineer, chemical defense, electronic warfare, logistics, and armament support units. Exercises also incorporate reserve, militia, and civilian augmentation forces and have been used to test and improve real-world logistics and armament support to deployed forces. In many cases, only *elements* of larger units, such as one or two regiments of a division or a single division of a group army, are involved in an exercise controlled by the higher headquarters mentioned in press accounts. In 2001 and 2002, amphibious training began in May and continued through September; in 2003, amphibious training was delayed because of the SARS problem and in 2004 and 2005 amphibious training also started later in June or July.

Nanjing and Guangzhou Military Region units have conducted the majority of amphibious training, with a lesser amount of training conducted by units in the Jinan, Shenyang, and Beijing Military Regions. These training priorities fit with what we would expect to be the first wave of an amphibious operation against Taiwan and follow-on, exploitation forces. They also are consistent with the training outline from April 2000 mentioned earlier.

Based on reviewing Chinese news reports of amphibious training exercises since 2001, I estimate that some 22 or more infantry and armored divisions or brigades, or about one-quarter of the 80-some PLA maneuver (infantry and armored) divisions and brigades, plus several artillery, AAA, and air defense brigades, have trained *to some extent* for amphibious operations. Many of these other units may not train for amphibious operations as frequently or as intensively as the 1st and 124th Amphibious Mechanized Infantry Divisions and the amphibious armored brigade of the 31st Group Army in the Nanjing Military Region, but a significant portion of the ground force in north and east China has been exposed to the complexities of landing operations. These numbers *do not*, however, necessarily represent the size of a force the PLA could put together at one time to conduct an amphibious campaign, but individual divisions and brigades are the basic building blocks which would form a larger campaign.

Anti-terrorist Training. After September 11, 2001, anti-terrorism training was elevated in priority for the PLA, PAP, militia, and civilian police forces. Anti-terrorism training is conducted in all parts of the country, but especially in China's western regions and the major cities. Special training courses have been conducted to introduce commanders to terrorist techniques and countermeasures.

All elements of the uniformed armed forces (the PLA, PAP, and militia) train with the civilian police force in anti-terrorist operations. Training scenarios frequently include hostage rescue, anti-hijack, bomb detection and disposal, and chemical, biological, and radiological (“dirty bomb”) situations. Additionally, the PLA has conducted several anti-terrorist exercises with military forces from neighboring countries.

Airborne Training. The PLA Air Force’s 15th Airborne Army is one of the best trained units in the PLA. Like other components of the PLA, it has benefited from new equipment and increased training opportunities made available in recent years. The size of airborne operations appears to have grown to include more battalion and regimental exercises, ranging from several hundred to well over a thousand paratroopers, in addition to the numerous company size drops of 100 to 200 personnel. Most airborne missions appear to be raids or seizure of key terrain behind enemy lines, such as ports or airfields, followed shortly by link-up with ground forces.

Airborne training now includes the employment of the airborne’s own Special Operations, communications, and logistics forces along with its infantry and artillery units. Airborne forces also train to receive fire support from aircraft and helicopters, as well as from missile units. New equipment has been introduced to drop cargoes in containers or on pallets, along with vehicles, from multiple types of transport aircraft.

One of the PLA’s largest and most important airborne exercises took place on July 12, 2004. The exercise was called “unprecedented in the history of airborne troops” and demonstrated the progress from several years of work. On that date, an airborne infantry battalion reinforced with artillery, air defense, engineer, chemical defense, communications, and logistics units jumped into the Gobi desert. The paratroopers used airborne assault vehicles to seize an enemy airfield and were supported by artillery, electronic jamming, a ground missile unit, and armed helicopters. They also practiced logistics support operations in this one-day exercise.

Most airborne exercises appear, however, to be conducted on their own independently, without integration into larger joint training scenarios. A significant exception to that observation was seen in “Peace Mission 2005” when 86 PLA and 86 Russian paratroopers (a company-size unit for each country) and 24 combat vehicles were dropped to capture an airfield in support of the combined amphibious landing operation.

Special Operations Forces and Helicopter Training. Special Operations units were established in each Military Region in the 1990s. In the first 10 years of their existence, their greatest focus was on organizing themselves and enhancing the specialized individual and team skills needed for the missions assigned. Integration of SOF units into larger joint exercises currently appears to be in the exploratory phase. Most reporting about SOF training emphasizes their physical toughness and marksmanship abilities, as well as techniques used to infiltrate behind enemy lines, live off the land in extreme conditions, and conduct strike missions. SOF missions include prisoner snatch operations; raids on enemy missile sites, command posts, and communications facilities; harassment and interdiction operations to prevent or delay enemy movements; strategic

reconnaissance; and anti-terrorist operations. SOF units may also be involved in information operations. SOF troops may be inserted by parachute, sea, or landed by helicopters. Helicopter insertion seems to be a favored method.

PLA ground force helicopter units have expanded in size since the mid-1990s, but are still relatively small in number for such a large army. The Chinese media recently has highlighted the trend for helicopter units to develop attack capabilities in addition to their more traditional transport role. PLA helicopter units mount machine guns, rockets, and anti-tank missiles on utility helicopters, such as the Mi-17-series from Russia or the domestically produced Z-9 or Z-11. Helicopters are also used in electronic warfare, mine laying, propaganda leaflet drop, medical evacuation, command and control, and reconnaissance missions. Since 2004, helicopter pilot proficiency training has emphasized night flights, low level (nap-of-the-earth) operations, over-water flights, and long-distance navigation exercises. Depending on the type of the helicopter used, most exercises probably transport a company or less of infantry soldiers in a single lift of up to about 12 helicopters, or even smaller numbers of SOF troops. Some exercises appear to be supported by helicopters in attack roles to suppress enemy defenses. The size of airmobile operations, of course, can be increased through the use of multiple lifts.

Other Training. In addition to the operations mentioned above, units throughout the country prepared for missions appropriate to their local situations (coastal, interior, desert, mountain, etc), including border and coastal defense from external threats and disaster relief operations. Moreover, specific training supervised by the political, logistics, and armament systems was conducted to prepare these units to better integrate themselves into joint operations. Reserve and militia units also have undergone a variety of training exercises to hone their capabilities to support the active force.

- “Three war” operations. In 2004, the General Political Department highlighted “Three war” training, i.e., media (or public opinion) war, psychological war, and legal war. These efforts fall under the rubric of information operations.
- Logistics and armament training. Logistics and armament support units conduct an array of functional exercises on their own to perfect the skills necessary to support the combat forces. Military Region logistics subdepartments and group armies form “emergency support units” to provide forward-based, reinforcing support to lower level units. The size and composition of “emergency support units” varies according to the needs of the unit supported, the mission, and terrain. “New equipment training” is overseen by technicians in the armament system both in garrison and in the field to prepare soldiers to operate and maintain the large numbers of new weapons and equipment introduced into the force since 1999. In 2004, a *PLA Daily* article highlighted the significance of maintenance and equipment reliability by describing how “a tiny screw falling off a radar system brought a [brigade] field exercise to a standstill.” This modern parable taught the lesson that even “minor specialized elements,” such as a repair unit, can play a major role in overall unit capabilities.
- Reserve and militia training. Following their own structural reforms begun around 1998, reserve and militia units have increased their training tempo to prepare for

new missions assigned. In addition to conducting independent training to develop functional proficiencies, PLA reserve units and militia forces are frequently mixed into active duty field training exercises along with civilian support. Surprisingly, in September 2002 in what was called the “first drill with reservists joining active servicemen,” *Xinhua* reported a reserve regiment from the Beijing Military Region mobilizing to link up with an active duty unit for a “confrontation exercise” against a “Blue Army.” Since that time, more reserve units have trained with active PLA forces and “linking reserves with active units” was a training priority for 2005. In particular, the seven newly formed reserve logistics support brigades, one for each Military Region, are among the busiest units as they support both reserve and active forces. Integration of reserve, militia, and civilian support with active duty forces is often accomplished using the system of National Defense Mobilization Committees that extends from national-level to Military Region, down to every province, and theoretically to every county in the country.

In conclusion, I must note that I read reports of PLA training in the Chinese media with caution and often view skeptically pronouncements that such and such an operation was conducted in three minutes or 45 minutes or it was “the first ever” or the “largest ever” or “all missiles hit their targets.” Still, careful reading of the Chinese press can provide reasonable insight into the content of PLA training activities and when tempered with some military experience can result in useful perspectives not frequently considered in the excitement generated by many foreign press articles about new equipment acquisition. For example, in all the reporting of air operations, I see little evidence of doctrine for or training in what we call “close air support” (CAS). Instead, most, if not all, “air support” is still conducted against preplanned targets with aircraft under the command of controllers far away from the frontlines. This situation may change as new communications equipment, that permits forward units to talk with aircraft, and laser target designators are issued to the force. Experimentation may be underway, but I’ve not seen evidence of it.

Some recent observations found in PLA newspapers may serve to provide a Chinese perspective on the state of training activity in perhaps the two most important Military Regions.

- In 2004, the Nanjing Military Region reported, although region units have achieved remarkable progress in building up their “Two Capabilities” (combat and technical support capabilities), they still lag behind actual war requirements. A conference on training identified the following “Matters to Be Dealt With”:
 - Some units do not train according to correct guidance, their training standards are not high, and basic training is not on solid footing;
 - There are still weak links in new equipment training;
 - Training units at various levels fall short of training tasks;
 - Some units prepare training plans roughly and the teaching force on the first line is weak;

- Headquarters fail to provide effective training guidance;
- Some units lack initiative in providing training support.
- In 2003, the Nanjing Military Region reported that night training “is a weak link in current training.” (This is especially noteworthy in an army with a reputation for successful night operations in its early years.)
- In 2004, the Guangzhou Military Region reported there is still a gap between the overall quality of region personnel and the planned target of the Central Military Commission and the requirement to fight and win information wars. Outstanding problems are:
 - Shortfall in total number of capable personnel;
 - Generally low science and technology and cultural qualities in personnel;
 - A lack of joint operations capability in commanders at all levels;
 - Lack of competent technical support personnel for new weapons and equipment of combat units resulting in actual support capability being low.
- In 2005, command staff training was said to be “a weak link” in the Guangzhou Military Region.

From these types of reports it is understandable why the PLA has established a two-decade long goal for improving the quality of its personnel (see *China's National Defense in 2004*, “Revolution in Military Affairs with Chinese Characteristics” for details). The amount of change and uncertainty introduced into the force due to personnel reductions, force structure changes, new doctrine, new equipment, and new personnel policies over the past six years can be disorienting and imposing for many officers and enlisted men alike. Yet, it is exactly these people who must plan new PLA operations, execute its doctrine, operate more advanced equipment, and maintain and sustain the force at tempos never before seen. Success on the modern battlefield will be much more dependent upon the quality of these personnel and the rigors of their training than on the new equipment they have acquired recently. I believe the Chinese leadership understands these challenges and is approaching the problems of modernization and transformation in a logical and methodical manner. As always, I remain open to change my conclusions based on new information and I encourage further examination into these complex topics.

Finally, I think it is useful to quote Russian Defense Minister Sergey Ivanov when asked what had impressed him most about the PLA during “Peace Mission 2005.” Ivanov stated it was the PLA’s “iron discipline.”