

RECORD VERSION

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ON

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INTRODUCTION

Chairman Cotton, Ranking Member King, distinguished Members of the Senate Subcommittee on Airland, thank you for your continued support and demonstrated commitment to our Soldiers, Army Civilians, Families, and Veterans. On behalf of our Acting Army Secretary, the Honorable Robert Speer, and our Chief of Staff, General Mark Milley, we thank you for the opportunity to appear before you today and look forward to our discussion.

Army modernization today stands at a precipice due to a combination of strategic, technological, and budgetary trends that threaten to place our Army at a disadvantage not only against advanced adversaries, but also against a broad range of other potential threats and enemies. In early 2016 the National Commission on the Future of the Army observed that reductions in Army modernization were elevating risk to the Joint Force. That military risk has already manifested itself: our Army is rapidly reaching a point where we will be outgunned, outranged, and outdated when compared to our most capable potential adversaries. Continued failure to fund modernization will leave the U.S. with a 20th Century Army unsuited to handle the geostrategic environment of the 21st Century. Moreover, deferred modernization costs merely place today's burden on tomorrow's Army. Given these realities, maximizing the utility of the modernization efforts after an era of uncertain and limited budgets is critical for the future of the Army.

THE URGENCY OF MODERNIZATION

To protect the homeland, foster security abroad, and win wars Army forces must have the capabilities, capacity, and readiness to accomplish assigned missions as part of the Joint Force. In short, Army forces must have overmatch. Army forces that possess overmatch enable the other services, create options for Joint Force commanders, give weight to diplomacy, and expand policy choice. Overmatch also constrains adversaries; if our potential adversaries cannot hope to hold ground, dominate populations, or control resources, then they cannot achieve their policy objectives. The U.S. has enjoyed the benefits of tactical overmatch for so long that some now take its benefits for granted and underestimate the effort required to maintain it.

Legacy platforms that have provided the foundation of U.S. Army tactical overmatch for decades are near the limits of what can be achieved through further upgrades and are at risk of becoming obsolete. Moreover, the U.S. must be mindful that adversaries may no longer be convinced that the U.S. Army is capable of denying them victory on the battlefield. Perceiving they can achieve their objectives within an acceptable timeframe and cost, adversaries will attempt to present the U.S. with a *fait accompli*. But, capable ground forces that prevail in close combat are a powerful deterrent and enable Joint Force freedom of action. To keep pace with potential adversaries and wisely invest in the opportunities presented by new technologies, the U.S. Army must undertake an innovative, ambitious modernization effort.

THE STRATEGIC ENVIRONMENT

Since the end of the Cold War, the U.S. Army as part of the integrated Joint Force has deterred conflict and supported allies and partners in Europe and Asia, supported civil authorities within the United States, and fought two prolonged wars in Iraq and Afghanistan—both of which remain ongoing. Today, the world is a more dangerous place than at any time since the end of the Cold War and the global security environment continues to remain volatile, uncertain, and complex. With increasingly aggressive actions by several rising and resurgent powers and disruptive regional actors, the risk of conflict is rising. Revisionist powers, Russia and China, continue their attempts to diminish U.S. influence while Iran and North Korea's provocative and bellicose actions increasingly destabilize their regions of the world. Violent Extremist Organizations, such as ISIS, pose potential threats to U.S. national security interests. Combined, those challenges represent a broad range of operations for which our Army must be prepared. At home or abroad, our Nation expects a ready Army with sufficient capabilities and capacity that is capable of defending the homeland or deploying rapidly in the event of unforeseen conflicts.

Russia's attempts to erode our alliances through aggressive, militarized competition are increasing the potential for miscalculation and the risk of conflict in Europe and beyond. As evidenced by their interventions in Ukraine and Syria, to achieve its policy objectives, Russia will continue to employ conventional and unconventional military

forces while operating under the threshold of a decisive U.S. or allied response. Russia's conventional capabilities are formidable and, in many areas, superior to ours and those of our allies and partners. We must be able to penetrate and operate within highly defended environments, possibly at the leading edge of a Joint Force to control the air, sea, space, and cyberspace domains. In addition, through an intensive modernization effort, Moscow is developing a significant capability advantage in several specific military areas.

Rising tensions and the actions of regional actors are increasing the risk of conflict in Asia. China's militarization of extralegal territorial claims further strains international relations in the South China Sea while their modernization programs to develop capabilities that project power within the air, maritime, space, and cyberspace domains increasingly alarm the nations of the Pacific-Rim. China is also developing offensive cyber capabilities and an ability to jam the electromagnetic spectrum capabilities that impacts U.S. communications and Assured Positioning, Navigation, and Timing, severely limiting what was once a significant differential advantage for U.S. forces. Current trends in Chinese weapons production will enable the Chinese to conduct a range of military operations well beyond its borders.

Despite increasingly constrained financial resources, the Democratic People's Republic of Korea (DPRK) continues to prioritize expansion of its nuclear and ballistic missile programs. The DPRK also possesses cyber and chemical-biological warfare capabilities while maintaining an aging, but large and capable conventional force that has the ability to mass long-range fires on targets throughout the region, particularly Seoul. As the DPRK continues to threaten attacks on the United States and our allies and the DPRK leadership faces mounting economic and political pressures, the United States must maintain its deterrent force on the peninsula and be prepared to deploy substantial ground, air, and maritime forces as part of a coalition alongside Republic of Korea forces in defense of the peninsula and region.

Iran's involvement in the Syrian, Iraqi, and Yemeni conflicts continues to deepen while their nuclear aspirations, cybersecurity threat, sophisticated ballistic missile program and links to Hezbollah threatens regional security and continues to destabilize the

Middle East. Moreover, with the signing of the Russian-Iranian Military Cooperation Agreement, and the lifting of economic sanctions, it is likely that Iran will accelerate its military modernization thereby posing a greater threat to U.S. interests and allies in the Middle East.

Threats to national security are also increasing from non-state actors. ISIS, AQIM (al-Qaeda in the Islamic Maghreb), Boko Haram, and other extremist organizations threaten stability throughout the world. ISIS inspired, planned, and resourced attacks from Iraq to Lebanon, Turkey, Paris, Libya, Brussels, and even the homeland indicate that terrorist organizations that control territory, populations, and resources must be contained and eliminated.

As these examples demonstrate state, non-state, and hybrid threats are increasingly capable and continue to narrow U.S. competitive advantages not only on land, but also in all domains. The complexity of future armed conflict requires an Army capable of conducting missions at home and in foreign lands. Our Army must maintain readiness for today and invest in modernization to ensure readiness for tomorrow in order to maintain overmatch against elusive and increasingly capable enemies.

The global security environment, increasingly characterized by instability and a growing range of threats, demands an Army that must be organized and ready for an expanding diverse and complex range of missions. While the threats and missions we face today will endure well into the future, they will be overshadowed by emerging peer competition. More than ever, this environment will require trained and ready Army formations possessing both the capacity and capability to meet current and future challenges. We must modernize to ensure that our capabilities remain relevant against constantly evolving threats.

MODERNIZING THE FORCE

Challenges to Army modernization have been building over the course of nearly two decades. Adjusting for inflation, the Army has nearly half of the funding for modernization and equipment that it had just 8 years ago. Declining budgets drive difficult choices; we have faced these choices over many budget cycles.

The budget issue has been further complicated by 15 years of focus on counterinsurgency and counterterrorism as the Army addressed current needs in Afghanistan and Iraq. This was the right thing to do, but it required tradeoffs. The Army, fully aware of these tradeoffs, made the right choices to support our Soldiers for the missions and threats we faced at that time. This kind of approach led to the fielding of Mine Resistant Ambush Protected vehicles, increasing the number of UH-60s for Air Medical Evacuation, significantly better Personal Protective Equipment, and rapid fielding of theater-specific equipment for our Soldiers.

In terms of procurement, we are essentially relying on the same platforms that we have had since the 1980s—the Big 5, consisting of the Abrams Main Battle Tank, Bradley Fighting Vehicle, Apache Attack Helicopter, Blackhawk Utility Helicopter, and Patriot Missile System. The Army developed these systems to provide a credible deterrent during the Cold War. Given the current level of funding, we will continue to rely on all five platforms into the 2030s and beyond.

Meanwhile, our enemies have not been idle. The overmatch your Army has enjoyed for the last 70 years is at risk. Our adversaries have observed the way we fight and have developed capabilities and tactics to counter our strengths and exploit our vulnerabilities. Some of these new capabilities and tactics have already been demonstrated in combat.

Fiscal constraints have forced the Army to accept risk in starting new developmental programs in order to prioritize incremental upgrades of existing systems that can be in the hands of Soldier quickly. Over the last 15 years, the Army has not modernized for full spectrum warfare thereby risking the loss of current and future overmatch in every domain: land, air, maritime, space, and cyberspace.

Our Soldiers must be able to prevail against the full range of potential threats, including near-peers in highly lethal combined arms maneuver; hybrid warfare; and determined, unconventional insurgents. This has become increasingly difficult, as our adversaries modernize at a rapid pace, while reduced funding has reduced the Army's modernization to a pace that jeopardizes our overmatch. Stretching procurement

timelines has allowed us to focus on current readiness and keep production lines and key programs active, at the cost of increased risk versus our most capable adversaries.

PRIORITIZING CAPABILITY GAPS

This year, the Army conducted the inaugural Strategic Portfolio Analysis Review (SPAR), which enables Army senior leaders to make informed resource decisions within a larger strategic framework. The SPAR prioritizes limited modernization resources, weighed against risks and critical capability gaps, in order to balance near-term readiness requirements against long-term force development aspirations. As part of the SPAR we modeled and tested our 780-plus programs against a scenario with a near-peer adversary. This analysis resulted in the prioritization Army capabilities into four bins:

1. Critical Capability that provides a decisive advantage in which we should increase investment
2. Critical Capability that we should sustain at current levels of investment
3. Important Capability, but one from which we can divert resources
4. Still important, but we should divest in order to free up resources for the other categories.

SPAR has validated a number of critical capability gaps in key program areas. These gaps are Army modernization priorities that we must pursue in order to maintain and, eventually, regain overmatch to credibly deter and defeat near-peer adversaries.

- Air and Missile Defense (AMD). We lack the capability and capacity to meet the AMD demands of the combatant commanders to cover key fixed sites and provide effective AMD protection of the maneuvering forces.
- Long-range Fires. The Army lacks capability and capacity to provide immediately responsive, effective surface-to-surface fires at ranges beyond 40 kilometers (km) for Cannon Artillery, beyond 84 km for Rocket Artillery, and 300 km for missiles; this gap is partially due to the aging Army Tactical Missile System (ATACMS) inventory.

- Munitions. The Army anticipates significant increases to ammunition requirements based on emerging peer and near-peer threats and increased demand in Iraq and Afghanistan. We are evaluating the need to both grow capacity in some of our Government-owned and Contractor-operated ammunition plants and to broaden commercial capacity in order to meet the increased requirements for preferred munitions.
- Mobility, Lethality and Protection of Brigade Combat Teams. Our Armored, Infantry, and Stryker Brigade Combat Teams are deficient in the appropriate combination of mobility, lethality, and protection required to achieve overmatch during joint and combined arms operations.
- Active Protection Systems (APS) – Air and Ground. The proliferation of advanced man portable air defense systems significantly threaten Army Aviation in operational environments. On the ground, our combat vehicles lack the ability to effectively detect, track, divert, disrupt, neutralize, or destroy incoming direct and indirect fire munitions.
- Assured Position, Navigation, and Timing (PNT). The commercial and Military Global Positioning Systems (GPS) are susceptible to threat disruption (jamming) and spoofing (mimicking friendly forces).
- Electronic Warfare (EW). The Army is unable to conduct Electronic Attack and EW Support against near-peer adversaries.
- Cyber (Offensive and Defensive). We lack sufficient tools, platforms, and architectures to conduct Offensive Cyber Operations in the constantly changing, complex Cyber Domain. The Army also lacks sufficient Defensive Cyber infrastructure and tools to support Mission Command in all scenarios.
- Assured Communications. Current communications systems are vulnerable to near-peer threat detection, disruption/denial, and exploitation.

- Vertical Lift. The Army's increased requirements for aircraft survivability, safety, and Mission Command have reduced fleet payload and range capacity. This limits mobility and increases risk to ground forces.

RESOURCING MODERNIZATION

With respect to the budget, the Army has three main categories within the topline that it can adjust: Manpower, Readiness, and Modernization. Of these three, Readiness is our top priority. We are also committed to maintaining force structure. Any adjustments to these three categories are zero sum; there must always be a "bill payer" for every increase. Inflation and increasing to personnel costs put increasing pressure on the Modernization portion of the budget.

Given this set of priorities, the Fiscal Year 2017 (FY17) President's Budget request allocated about 60 percent of the Army's topline to manpower. This is a must-pay bill. Readiness will consume approximately 24 percent of our budget; as the number one priority, the Army will not choose to reduce this allocation. This leaves roughly 16 percent for Modernization.

Ideally, we would always have the most modern equipment, but this would require painful tradeoffs with Manpower and Readiness. We would like to do all three, but large Modernization investments at the wrong time could lead to a force that is too small or a force that we cannot afford to keep ready. Maintaining balance across Manpower, Readiness, and Modernization is key to preventing a hollow force. Without sustained, long term, and predictable funding, we cannot effectively plan and execute a balanced Army program.

Given the fiscal pressures, the Army has focused constrained resources on equipping for the near term at the expense of preparing for the future. The Army is accepting risk in starting new programs in order to prioritize incremental upgrades of existing systems that can be in the hands of Soldiers more quickly. Our current equipment modernization strategy has been structured to:

Protect Science and Technology to field capabilities to the force in the 2030s. We will prioritize Science and Technology efforts to develop new military capabilities to deter and defeat potential adversaries in the next fight. We are implementing a strategic approach to modernization that includes an awareness of existing and potential gaps; an understanding of emerging threats; knowledge of state-of-the-art commercial, academic, and Government research; and an understanding of competing needs for limited resources.

Sustain Incremental Upgrades. We have prioritized capabilities that have the greatest impact against a near-peer threat and can be in Soldiers' hands in the next 10 years. We are focused on improving the M1 Abrams Tank, M2 Bradley Fighting Vehicle, and Stryker Families of Vehicles, as well as Paladin, Improved Turbine Engine Program, and the Guided Multiple Launch Rocket System. We are also improving the Apache, Black Hawk, and Chinook helicopter fleets, as well as our Unmanned Aircraft Systems.

Take Risk in New Development. The Army is making modest developmental investments based on critical operational requirements and capability shortfalls. Fiscal realities have led to the delay or discontinuance of new systems. Key investments that remain in the next generation of ground vehicle capabilities include the Armored Multi-Purpose Vehicle and the Joint Light Tactical Vehicle, a critical program for the Army and the U.S. Marine Corps.

The Army will begin new developmental programs only if required to close an extremely high risk gap. We will attempt to accelerate Air and Missile Defense, Long Range Fires, Mobile Protected Fire Power, Active Protection Systems (Air and Ground), Assured Positioning, Navigation, and Timing, Electronic Warfare, and Cyber offensive and defensive capabilities.

Go Slow, Keep Options Open. We have, and will continue to, slow down procurement to keep production lines open and warm for when funding becomes available.

Reset and Sustain. The Army is returning equipment to the required level of combat capability; it remains central to both regenerating and maintaining equipment near-term readiness for ongoing operations and potential contingencies.

Divest. We are identifying equipment and systems that are excess, obsolete, or no longer required to reduce and eliminate the associated sustainment costs. For example, we are divesting the aging M113 armored personnel carriers and legacy radios. Additionally, the Army's Mine Resistant Ambush Protected vehicles divestiture will eliminate a large portion of the fleet through Foreign Military Sales (FMS), distribution to other agencies, and demilitarization of older, battle-worn, excess vehicles. The Army also continues to divest its aging TH-67 training helicopters, as well as the OH-58A/C Kiowa, OH-58D Kiowa Warrior, and UH-60A Black Hawk fleets.

THE DEFENSE INDUSTRIAL BASE

The constrained resources in the Army's modernization account continue to present significant challenges for the Defense Industrial Base (DIB), especially for companies that cannot leverage commercial sales and for small companies that must diversify quickly to remain viable. When developing our equipment modernization strategy, we carefully assess risk across all portfolios to ensure balanced development of new capabilities, incremental upgrades to existing systems, and protection of critical capabilities in the commercial and organic elements of the DIB.

The Army remains concerned about the preservation of key skills and capabilities in the engineering and manufacturing bases for our original equipment manufacturers and their key supplier bases. Collaboration with our industrial base partners early in the process helps to reduce risk. Efforts such as the Army Manufacturing Technology Program provide affordable and timely manufacturing solutions that assist our industry partners to address manufacturing and producibility risks. Also, the Army supports efforts to develop FMS and Direct Commercial Sales to ensure sustainment of critical production lines in the DIB.

The Army continually assesses risk in the Industrial Base across all Army portfolios. Fragility and Criticality (FaC) assessments identify the fragile and critical portions of sectors within the DIB to facilitate the identification of risk mitigation strategies. FaC assessments provide Army program offices: 1) the ability to identify how potential reductions in funding could affect suppliers that provide the products, skills, and

services needed to maintain readiness, and 2) information to support investment decisions to mitigate supplier risk.

The Army also continually assesses the health of the organic industrial base (OIB), including our depots, arsenals, ammunition plants, munitions centers, and Government-owned Contractor-operated plants. The Army maintains critical skill sets in our OIB by identifying workload to preserve capabilities, exploring FMS opportunities, and encouraging our OIB facilities to partner with commercial firms and other Department of Defense organizations, such as the Defense Logistics Agency, to meet future requirements. We continue to modernize our OIB infrastructure, as needed, to support readiness.

OPPORTUNITIES TO 'TURN THE TIDE'

Given the complex range of threats, the Army has a very short window to improve capability and capacity. By design, the Army drawdown was deliberately designed to reverse course and expand if necessary. Additionally, Army modernization, during the past several years of constrained funding and austerity maintained its resilience by:

- Protecting the defense industrial base by keeping production lines warm
- Protecting modernization options by investing in the next generation of incremental improvements, emphasizing low risk and cost efficient improvements

We have sustained many programs that could be accelerated if needed. The Army is prepared to accelerate delivery of fires capability, armor formation upgrades, aviation fleet modernization, enhanced air and missile defense, ammunition and missiles for emerging wartime requirements, lethality upgrades for Stryker vehicles, assured communications, Soldier lethality and protection and finally, electronic warfare. The Army is at an historical inflection point; we are postured to pivot rapidly if directed to do so.

CAPACITY

The modernization priorities described above are critical to maintain overmatch against increasingly capable enemies. However, modernization alone is not enough. The Army requires ready forces that not only possess modern capabilities, but also the capacity to translate military objectives into enduring political outcomes. Army capacity is critical to deter enemies; reassure allies; surge forces to contingencies; control territory; secure populations overseas and in the homeland; and regenerate combat power. At current levels of readiness, modernization and manning, the Army risks being unable to achieve the objectives of the Defense Strategy. Ultimately, a modern and ready Army with sufficient capabilities and capacity creates synergy that enables the Joint Force to translate military objectives into enduring political outcomes.

The Army continues to meet current demands, but doing so significantly degrades our ability to meet the Defense Planning Guidance to deter conflict, and if deterrence fails, defeat an adversary in one theater and deny the objectives of another, all while defending the homeland and conducting counterterrorism operations worldwide. Today, the Army is globally engaged with approximately 185,000 Soldiers supporting Combatant Commanders in 140 countries. These Soldiers conduct combat operations, deter aggression, and assure our Allies and partners. In Afghanistan, the Army continues to engage the enemy as we work with Allies and partners to train, advise, and assist Afghan National Security Forces. In Iraq, we continue to build partner capacity to fight ISIS. Throughout Africa and the Americas, we partner to prevent conflict and shape the security environment. In the Pacific, more than 105,000 Soldiers remain committed; approximately 20,000 stand ready in the Republic of Korea. In Europe and Asia, Army forces also reassure our Allies and deter aggression.

An Active Army which currently stands at just over 467,000 was drawing down from a wartime high of 570,000 (1,133,000 Total Force) to 450,000 personnel (980,000 Total Force) and reducing from 45 to 30 BCTs (56 Total Force). A 980,000 Total Force places the Army at risk of being unable to execute the defense strategy. The FY17

National Defense Authorization Act (NDAA) authorized an Active Army end strength of 476,000, which is 16,000 personnel more than the 2017 budget request. The NDAA also authorized an Army National Guard end strength increase of 8,000 personnel to 343,000 and an increase of 4,000 to 199,000 for the Army Reserves, for a Total Force of 1,018,000. Any authorized personnel increases such as these must come with appropriations to be of value. This authorization is a down payment on reducing the risk the Army is carrying, particularly in improving readiness shortfalls due to personnel fill. However, if sequestration-level cuts are imposed in FY18 and beyond, all components of the Army would be immediately impacted, with Active Army end strength rapidly falling to 420,000, the Army National Guard drawing down to 315,000, and the Army Reserves reducing to 185,000. Those reductions would increase the military risk the Army faces. Insufficient capacity in ready land forces limits the options the President, Secretary of Defense, and combatant commanders have to respond to and resolve crises. Moreover, once we are cut it is difficult to regenerate Army forces rapidly. Growing the Army is difficult, costly and takes time due to a lack of manpower, the sophisticated nature of weapons and equipment, the importance of training teams on collective tasks, and the need for those teams to have experienced leaders.

IN CONCLUSION

We sincerely appreciate the opportunity to address the challenges the Army faces in maintaining readiness and modernizing its force. We are also grateful for Congress's efforts to stem the continued decrease in force structure; we are already making progress in regrowing the Army in accordance with the NDAA-prescribed end strength. We must also ensure the force is equipped and modernized for full spectrum conflict. The security challenges of tomorrow will be met with the equipment we develop, modernize, and procure today. Resource reductions and insufficient force modernization will place the Army's ability to overmatch its opponents at risk because our adversaries will continue to invest in technology to counter or evade U.S. strengths and exploit vulnerabilities.

We can assure you that the Army's senior leaders are working hard to address current challenges and the needs of the Army both now and in the future. We are

doing so with a commitment to be good stewards of our Nation's resources while meeting the readiness, equipping, and modernization needs of our Soldiers.

Mr. Chairman and distinguished Members of this Subcommittee, we sincerely appreciate your steadfast and strong support of the outstanding men and women in uniform, our Army Civilians, and their Families.