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Testimony of David Ochmanek¹
The RAND Corporation²

Before the Committee on Armed Services
United States Senate

February 16, 2017

Good morning, Chairman McCain, Ranking Member Reed, members of the committee, and staff. I appreciate the opportunity to share insights that my colleagues and I have gained from more than a decade of analyzing emerging threats to U.S. military operations. Our work has revealed some serious and growing gaps in the capabilities of U.S. forces, raising questions about their ability to accomplish the strategically important mission of deterring and defeating aggression by adversary states. I therefore applaud the committee's efforts to focus attention on how the Department of Defense (DoD) can best act to reverse the deterioration in the military balance of power in key regions.

The security environment in which U.S. forces operate and for which they must prepare is, in important ways, more complex and more demanding than the one that DoD has used to build and evaluate today's force. To be clear:

- Our force planning prior to Russia's attacks on Ukraine did not take account of the need to deter large-scale aggression against the North Atlantic Treaty Organization (NATO).
- We also have not moved quickly enough to provide the capabilities and basing posture needed to meet the manifold challenges posed by China's rapidly modernizing armed forces.
- The prospect of deliverable nuclear weapons in the hands of North Korea and, potentially, Iran poses challenges for which we do not have satisfactory answers.

As these threats have emerged and our forces have carried on a multifaceted campaign against Salafist-jihadi forces in several locales, the nation has not committed the resources called

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for to build and sustain the capabilities that our forces need to succeed in this more demanding environment. As a result, the United States now fields forces that are simultaneously

- larger than needed to fight a single major war
- failing to keep pace with the modernizing forces of great power adversaries
- poorly postured to meet key challenges in Europe and East Asia
- insufficiently trained and ready to get the most operational utility from many active component units.

Put more starkly, our wargames and simulations suggest that U.S. forces could, under plausible assumptions, lose the next war they are called upon to fight.³

Of course, DoD has not been idle in the face of these developments. The defense development community, the services, and industry are generating new ideas, technologies, and operating concepts that offer real promise for countering the threats that are the cause for greatest concern. For the remainder of this testimony, I would like to highlight a few of these new approaches and show how they can enable a robust defense in the face of emerging challenges.

One of the most vexing problems facing power projection operations stems from the proliferation of accurate, long-range strike systems—ballistic and cruise missiles. Our land and sea bases today are exposed to attack as never before.

There is no single, “silver bullet” solution to these threats. Hunting down mobile missiles deployed deep in enemy territory is not a promising solution. Currently available ballistic missile defense systems are expensive and can be overwhelmed by modest-sized missile salvos. But wargaming shows that a number of complementary efforts can significantly increase the resiliency of forward bases and allow them to generate sustained combat power even in the face of repeated attacks. Chief among these are

- dispersing forward-based forces across a larger number of bases
- creating uncertainty about the location of those forces by parking them in redundant, low-cost shelters, moving them frequently, and using decoys and deception measures
- disrupting enemy reconnaissance capabilities
- making bases themselves more resilient; this generally calls for rather prosaic steps, such as positioning rapid runway repair materials and fuel bladders at each base and reducing the vulnerability of key nodes, such as fuel pumping facilities.

Analysis also shows the value of active defenses against cruise missile attacks. The Army’s new short-range air defense system, IFPC-2, seems particularly well suited to defeating even sizable salvos of cruise missiles.

Another part of the answer to the vulnerability of forward bases is to rely more heavily on platforms that can fight either from afar (long-range bombers) or from sanctuary (submerged submarines). In wargames, U.S. bombers—B-52s, B-1s, and B-2s—often operate relatively

³ For a succinct assessment of the military balance between Russia and NATO and the prospects for a defense of the Baltics, see David A. Shlapak and Michael W. Johnson, *Reinforcing Deterrence on NATO’s Eastern Flank*, Santa Monica, Calif.: RAND Corporation, RR-1253-A, 2016. For an assessment of trends in China’s armed forces and their implications for U.S. defense strategy and planning, see David Ochmanek, *Sustaining U.S. Leadership in the Asia-Pacific Region*, Santa Monica, Calif.: RAND Corporation, PE-142-OSD, 2015.

unscathed by missile attacks but fail to make decisive contributions to defense because they run out of munitions that they can survivably deliver. U.S. forces could get much more capability from the bomber fleet by greatly expanding inventories of weapons like the Joint Air-to-Surface Standoff Missile–Extended Range (JASSM-ER) and miniature air-launched decoy (MALD) cruise missiles and by accelerating the development of new weapons, such as antiship cruise missiles and swarming unmanned aerial vehicles (UAVs), that can be delivered by our bombers.

Similarly, the Virginia-class submarine has unparalleled stealth capabilities and can fight from areas off the coast of adversary nations, but it has limited weapons carrying capacity. The Virginia Payload Module modification boosts this capacity. Other promising concepts for affordable delivery of payloads from undersea are being developed, such as unmanned underwater vehicles.

A second priority for the force is to find more robust ways to rapidly detect, track, and attack key military targets—the enemy’s operational centers of gravity, if you will—in contested areas from the outset of a campaign. What do I mean by this? Traditionally, U.S. forces open military campaigns by first establishing freedom of maneuver in the air, at sea, and on land. Once the enemy’s air defenses have been suppressed, for example, our air forces are free to observe and attack other targets—the enemy’s ground forces, naval forces, command and control centers—more or less at will. This approach has been central to the success of U.S. military operations since World War II.

Russia and China are fielding air defenses of such density and sophistication that our forces will not have time to comprehensively suppress them before going after the invading force they need to defeat. Therefore, our forces need to find ways to “reach into” defended airspace to find and strike the targets of highest priority.

What will it take to do this? Three types of capabilities:

1. **Sensors that can survive in defended environments.** These may be deployed on a range of platforms, such as small satellites; stealthy UAVs; swarms of small, expendable UAVs; and robotic sensors on the surface. The idea is to spread sensors across a number of different platform types so that some portion will be available at all times.
2. **Communication links** that can function effectively in conditions of heavy jamming and maintain data pathways among sensors, control centers, and shooters. Again, robustness will be achieved through versatility and redundancy. Airborne and terrestrial systems may be called for to back-up key capabilities on satellites, such as GPS and communications.
3. **Distributed networks of delivery platforms and weapons** that can strike key targets from both within and beyond the contested area. Examples of these include the sorts of standoff attack missiles that I spoke of earlier for the bomber and submarine forces, swarms of inexpensive autonomous weapons, and specialized weapons for attacking armored vehicles, ships, and surface-to-air missile systems.

One other observation: A significant portion of the capability gap we face on NATO’s eastern flank today can be remedied simply by putting appropriate forces, munitions, and support assets back in Europe. Russia’s armed forces are not superior to ours in most dimensions, but they have the advantage of geographical proximity: Today they can mass ground forces on NATO’s borders far more quickly than NATO can respond. Last year’s European Reassurance

Initiative, which funded, among other things, the deployment of Army ground forces in Europe, is a step in the right direction. But more is necessary, and our European allies have shown that they are ready to do their part.

At the conclusion of this statement, I have included a chart that provides a more complete list of the types of capabilities that our research suggests merit the highest priority for investments intended to redress the growing imbalance between the capabilities of U.S. forces and those of our most capable adversaries. Those capabilities are grouped according to the adversary to which they are most relevant.

One caveat: The research on which this testimony is drawn focused on understanding and countering the threats posed by state adversaries, such as China, Russia, North Korea, and Iran. My work has not delved deeply into issues of the readiness of U.S. forces, or the stresses that high operational tempos may be imposing on people and units. I have also not addressed the need to recapitalize U.S. nuclear forces. The absence of recommendations in these areas should not be taken as implying that investments there are not warranted.

Conclusion

DoD's leadership knows generally what is needed in order to counter most, if not all, of the operational challenges posed by our most capable adversaries. Many of the technologies needed to make innovative reconnaissance, communications, and weapon systems into realities are mature, and the services are devising and testing new operational concepts for employing these systems.

The two things that are needed now are money and insight: additional money to allow the DoD to move swiftly to develop, acquire, and field new systems and postures, and insight based on analysis to guide decisionmaking, so that funding goes to investments that have the potential to make the greatest and most enduring contributions to a robust defensive posture vis-à-vis China, Russia, and other adversaries. The Trump Administration and the 115th Congress have the opportunity to rectify the strategy-forces mismatch that has arisen over the past several years and put the United States back on a path toward fielding forces that can defeat any adversary.

One note of caution: Fielding the sorts of capabilities I have highlighted here should not, in most cases, be expected to restore to U.S. forces the degree of overmatch that they enjoyed against regional adversaries of the past, such as Iraq and Serbia. Any major conflict involving China, Russia, or North Korea is bound to be a costly and bloody affair. But I believe that it is within our means—technologically, operationally, and fiscally—to field forces capable of confronting even the most capable adversaries with the prospect of defeat if they choose aggression. That is the gold standard of deterrence, and it is the standard to which we should aspire.

Again, thank you for the opportunity to appear before this committee. I look forward to answering your questions.

Table 1. Priority Enhancements to U.S. Forces and Posture^a

China	<ul style="list-style-type: none"> Accelerated development and fielding of a longer-range, fast-flying radar-homing air-to-surface missile* and a longer-range air-to-air missile* Forward-based stocks of air-delivered munitions, including cruise missiles (e.g., joint air-to-surface standoff missile and joint air-to-surface standoff missile-extended range, long-range antiship missile),* surface-to-air missile suppression missiles (e.g., homing antiradiation missile, miniature air-launched decoy),* and air-to-air missiles (e.g., AIM-9X and AIM-120)* Prepositioned equipment and sustainment for ten to 15 platoons of modern short-range air defense systems (SHORADS) for cruise missile defense Additional base resiliency investments, including airfield damage repair assets and expedient aircraft shelters, and personnel and equipment to support highly dispersed operations Accelerated development of the Next-Generation Jammer* A high-altitude, low-observable UAV system* More-resilient space-based capabilities (achieved by dispersing functions across increased numbers of satellites and increasing the maneuverability, stealth, and “hardness” of selected assets)* Counter-space systems, including kinetic and nonkinetic (e.g., lasers, jammers) weapons*
Russia	<ul style="list-style-type: none"> Items listed under “China” that are marked with an * Three heavy brigade combat teams and their sustainment and support elements forward based or rotationally deployed in or near the Baltic states One Army fires brigade permanently stationed in Poland, with 30-day stock of artillery rounds; one additional fires brigade set prepositioned Forward-based stocks of artillery and multiple launch rocket system rounds; antitank guided missiles Forward-based stocks of air-delivered antiarmor munitions (e.g., Sensor Fused Weapon Pre-Planned Product Improvement) Station or rotationally deploy eight to 12 platoons of SHORADS forces in NATO Europe Increased readiness and employability of mechanized ground forces of key NATO allies
Iran	<ul style="list-style-type: none"> Improved, forward-deployed mine countermeasures High-capacity close-in defenses for surface vessels
North Korea	<ul style="list-style-type: none"> Improved intelligence, surveillance, and reconnaissance systems for tracking nuclear weapons and delivery systems Exploratory development of boost-phase ballistic missile intercept systems Continued investments to improve the reliability and effectiveness of the ground-based intercept system to protect the United States
Salafist-Jihadi Groups	<ul style="list-style-type: none"> Improved intelligence collection and analysis capabilities and capacity Acquire next-generation vertical takeoff and landing aircraft Acquire Light Reconnaissance and Attack Aircraft Develop powered exoskeleton, also known as the Talon Project Develop swarming and autonomous unmanned vehicles

^a David Ochmanek, Peter A. Wilson, Brenna Allen, John Speed Meyers, and Carter C. Price, *U.S. Military Capabilities and Forces for a Dangerous World: Rethinking the U.S. Approach to Force Planning*, Santa Monica, Calif.: RAND Corporation, RR-1782-IRD, forthcoming.