

Statement of
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Before the

House Committee on Armed Services Subcommittee on
Strategic Forces

Near-Peer Advancements in Space and Nuclear Weapons

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Good afternoon. It is always an honor to appear before the Strategic Forces Subcommittee of the House Armed Services Committee.

Thank you for the invitation and the opportunity to discuss the advancements being made by Russia and China in nuclear weapons and in space, and how these developments impact American security, policy, and investment decisions. These are important and complex topics, and I commend this subcommittee for addressing them at the very outset of a new Congress.

Before we start I want to be clear that today I share with you my own personal thoughts and do not represent or speak on behalf of any organization or entity.

The world today is more dangerous, more chaotic, and more uncertain than at any time since the end of the Cold War. A world that, depending on your point of view, is either on the cusp of a new arms race or already in one. A world in which international norms are being flaunted, agreements are being violated and abrogated, and only one nuclear arms control treaty remains in force—the New START agreement, which thankfully was recently extended with only hours to spare before it expired. Today the world is neither in the midst of the Cold War nor an extension of it; many lessons of the past may need to be fundamentally re-thought as new technologies, capabilities, and operational domains change the security environment in ways we have just begun to understand. But it is also a world in which Allies and whole of government approaches are needed more than ever before.

Russia and China are engaged in significant military modernization programs both to support their own, evolving military doctrines and to counter perceived threats from the United States and its Allies.

Russia has more limited finances to devote to full scale military growth and diversification and has thus chosen to place greater emphasis on its nuclear forces. Russia's primary goal is to counter US missile defense and other conventional forces while bolstering its own self image as a great power. Its programs to modernize all three legs of its strategic nuclear triad are already well underway. Russia is also developing a wider range of dual capable systems, as well as a variety of non-strategic nuclear weapons.

With more resources than Russia, China continues to grow its overall defense budget. While primarily focused on its conventional forces, it is also improving its nuclear capabilities, increasing the survivability of its land-based ICBMS, and developing a nuclear triad of its own.

Both countries are also increasing their reliance on space systems to support military operations, while developing a variety of anti-satellite and other capabilities to prevent the US from taking full advantage of its space assets in the event of a crisis or conflict.

In addition to their nuclear and space programs, both countries are also harnessing new and emerging technologies to challenge and compete with the United States and its Allies in other operational domains. Russia is already using its cyber capabilities to attack the United States and to undermine US institutions, while China uses its cyber capabilities to steal US intellectual property and improve its economic fortunes.

Over the longer term, China most likely poses the greatest threat to the United States. Beijing has a stated goal of being a world class military power by 2049 and is employing a whole of government approach to exert its influence globally through initiatives such as the "One Belt One Road" project. In an excellent article in *Foreign Affairs* from March/April 2018, entitled "The China Reckoning," Kurt Campbell and Ely Ratner chronicle how the US expectations with respect to China's role in the established order have been dashed in the last 25 years. Instead, China has written its own rules and has developed into the "most dynamic and formidable competitor in modern history."

The authors argue "the starting point for a better approach is a new degree of humility about the United States' ability to change China. Neither seeking to isolate and weaken it nor trying to transform it for the better should be the lodestar of U.S. strategy in Asia." With Ely Ratner now heading up the

recently announced China review at DOD, there is an opportunity to change the relationship dynamic. And as Secretary of State Tony Blinken said recently, the US should engage China in all aspects of the relationship, adversarial, competitive or cooperative “from a position of strength not weakness.”

The Challenge Confronting Us

How then does the United States fashion this posture of strength that can compete with but not isolate China and balance and reduce those threats from Russia that this subcommittee is focused on today?

Both China and Russia are improving their nuclear and space capabilities but what is the United States doing and is it enough to counter and offset these capabilities? Simple numerical parity is not the answer. The solution is more complex, more nuanced and requires analytical rigor.

Providing the necessary deterrent is an all domain, whole of government effort that must be capable but also not drive adversaries and the US into a costly and unsustainable arms race. The military deterrent should be coupled with diplomacy where possible, improving transparency, reducing tensions, improving understanding of reciprocal misunderstandings, and finding common ground to reduce, limit or eliminate capabilities, while ensuring stability.

The US faced a significant challenge with space systems in the late 1990s and early 2000s as almost all of the military space systems and some of the intelligence space systems were being replaced. This “bow wave” was the result of many decisions, such as postponing the system replacements, over ambitious technical desires, poor acquisition management, budget overruns, developmental issues, funding swings, and program cancellations. GAO has studied and reported on these issues and other issues at length but suffice it to say it was a very difficult time for space. And as the replacement systems, SBIRS, AEHF, GPS etc., were finally launched, years later than planned, they were launched into a very different security environment.

Russia and China and others had seen the significant advantages space capabilities provided to the U.S. military, the intelligence community, and the economy generally and adopted two courses of action. The first was to develop the same or similar capabilities to support their respective

countries and the second was to deny the United States and its Allies the advantage of space.

Similarly, the U.S. nuclear systems are now in the midst of their own bow wave. While, thankfully, the size of the U.S. and Russian strategic nuclear arsenals decreased significantly following the end of the Cold War, the remaining U.S. systems, infrastructure, and warheads were aging. While the science of nuclear weapons had been well supported since the end of explosive nuclear testing in 1992, with a few exceptions, notably the introduction of the B2 bomber, the rest of the nuclear complex was living on the investments made in the past, as new system decisions and programs were put off and attention was focused elsewhere. Multiple reports and investigations, in some cases the result of mishaps, examined the problems and made recommendations that were either ignored, or instituted and not sustained.

This started to change about 10 years ago when the Obama Administration and Congress realized that there was no more margin to defer the needed investments. The delivery systems, the warheads and the infrastructure all needed attention to ensure that our nuclear forces were up-to-date and fully capable of maintaining an effective deterrent against attack on our homeland, on our military forces stationed abroad, and on our Allies.

With strong bipartisan support, across two presidential administrations, all of the nation's nuclear delivery platforms are being replaced or scheduled for replacement over the next two decades. The warheads associated with these systems are undergoing life extension programs. And the Department of Energy's National Nuclear Security Administration (NNSA) is in the process of modernizing its ageing production complex, recapturing the ability to make nuclear and electronic parts, and producing sufficient quantities of materials, such as tritium and lithium, that are essential to maintaining nuclear weapons.

As the nuclear systems, warheads and infrastructure are being replaced, they will no doubt encounter similar issues that the space systems encountered in their bow wave of modernization; in fact, some have encountered technical and production challenges already. The open question is when these systems are deployed, will they, like the space systems be launched into a very different security environment?

Open Questions

These are the questions for the new Biden Administration and Congress. Can the advantage of space be preserved, space situational awareness expanded, and the assets protected? Do we as a nation really understand how space resiliency and redundancy translate to programs, tactics and procedures? Can we better employ commercial space assets and partner with commercial entities and Allies in creative measures to ensure access to space?

As the DoD's Annual China Military and Security report from last year stated, "We assess that China and Russia are training and equipping their military space forces and fielding new antisatellite (ASAT) weapons to hold US and allied space services at risk, even as they push for international agreements on the nonweaponization of space."

Do we understand the threat and how it will evolve? With respect to nuclear systems do we have the correct type and number of nuclear delivery platforms and warheads to ensure a safe, secure and reliable nuclear deterrent? Do we have the capable, flexible infrastructure and the people with the necessary skills to make sure that the United States can respond to whatever the future presents in the way of changing threats, opportunities, and challenges? Can the infrastructure support verification, if new treaties and other agreements are possible, and provide the ability to hedge in any manner? Is the science of nuclear weapons supported to ensure both a robust deterrent and a robust non- and counter-proliferation program?

These are just a few of the questions that must be asked and answered.

Conclusion

Each Administration should review deterrence policy, strategy, and posture to ensure that the U.S. capabilities are appropriate and adequate for purpose. And when the review is complete, ask: do the resulting decisions provide a credible, safe, secure, and reliable deterrent for us and our Allies? The reviews should be open to the public to the extent that they can be, and they must fully include our Allies, and the Congress. Most importantly, in the end we need to ensure that the decisions are supported and funded and that the U.S is stronger as a result.

Thank you and I look forward to your questions and discussion.