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Remarks on Deterrence
Stimson Center, Washington, DC
September 17, 2013

Thank you, Michael, for that warm welcome and for the invitation to speak here today. This series of discussions about the similarities and differences between “space deterrence” and classic nuclear deterrence is both analytically interesting and practically useful. Efforts like these enable analysts and policymakers alike to think critically about the policy challenges of today and the future. We can thereby draw on the lessons of history as we consider issues and options for addressing the unique challenges of our ever-changing security environment. Now more than two years into my tenure at the Department of Defense, I particularly appreciate this time for strategic thinking and discussion. As any of you who have worked at DoD know, time for strategic thinking is a rare gift.

I know that there are no strangers to the well-studied concept of deterrence in this audience. Many of you have contributed to our understanding of the issue. Some of you were and are practitioners that help the United States effectively deter our adversaries and military competitors every day. And many others of you are studying and writing about how we might learn from our successes to build effective deterrence in other realms, including space and cyber. I have the unique pleasure – sometimes conundrum – of being a part of both of these worlds. As Assistant Secretary of Defense for Global Strategic Affairs, I oversee the Secretary of Defense’s primary staff support for policy issues related to nuclear weapons, ballistic missile defenses, countering weapons of mass destruction, space, and cyber. As you might imagine, deterrence is a concept that I think about daily – how to ensure it works and what do to if it fails. Today, I thought I would briefly share some of those thoughts, as well as the challenges. Understanding

how the Department of Defense thinks about deterrence in each of these realms is hopefully useful to this group of students, practitioners and experts. Many, most of you, probably already have your own well-formed ideas on the topic.

Even with this experienced group, however, I think it is always useful to establish the baseline. In this case, let me define some terms. According to DoD doctrine, **deterrence** is “the prevention of action by the existence of a credible threat of unacceptable counteraction and/or the belief that the cost of action outweighs the perceived benefits.” The critical elements are, of course, clear: prevention, credibility, belief, and unacceptable counteraction.

We also need to look at—think about—how deterrence can be applied over or along a temporal or threat continuum. Deterrence is aimed at *preventing* an actor from taking a particular action. And while not all elements of *prevention* are deterrence, many are. So even efforts to disrupt acquisition of threatening capabilities or dangerous precursor components for WMD, can be deterrence if the disruptive action is understood, exercised consistently, and the acquirer believes that it will be exercised again in the future. In other words: is it credible and believable? What is the cost to pay that outweighs the benefit in this circumstance? Imposition of sanctions, or the need to buy the same articles and materials over and over again, going the chosen route to proliferation becomes too difficult and costly.

In the Cold War, the United States was primarily concerned with preventing the Soviet Union from starting a major conventional war in Europe or launching a nuclear strike against the United States. And also conveying the idea that if deterrence failed the United States would prevent further escalation by the Soviet Union –that such aggression would elicit a nuclear response, thereby ensuring that the cost of aggression out-weighed the perceived benefit. The nuclear response would be too costly and too damaging to outweigh or justify the perceived gain

of the initial strike. The adjective that describes the nature of this nuclear strike varies, but the goal is the same—to regain deterrence.

This tense balance was built on secure second-strike capabilities, communication of intent, and demonstration of capability. These capabilities had to be credible and believable—there had to be no doubt in the will to exercise the action.

For decades, it prevented direct conflict between two adversarial superpowers. It is because of this relative success, comparable stability, and perceived simplicity, that students, scholars, and policymakers search for parallels in domains, the dynamics of which, are not as well understood.

As you all know, the United States has a long history with nuclear deterrence, both in the context of the Cold War’s “delicate balance of terror” as well as more recently with multiple nuclear-armed states. Indeed, nuclear deterrence is now a known quantity.

And deterrence remains a core defense strategy of the United States preventing nuclear attack on the United States and our allies and partners through the maintenance of a safe, secure, and effective nuclear stockpile, capable delivery platforms, and declaratory policy that conveys our intent to potential adversaries. This is also all reaffirmed in the new PPD, which the President issued in June. Some of you may recall the 90 day study, which lasted closer to 200 days, and which laid the foundation for the PPD.

Separated from the nuclear paradigm, however, we strive to apply the elements that we have learned are critical to effective deterrence, to areas like cyber, and space, and as I mentioned, preventing the proliferation of WMD.

In all of these areas, the United States puts deterrence into practice by using elements of national power to alter the calculus of potential adversaries who think about taking actions contrary to U.S. interests.

According to the Joint Operational Concept for Deterrence Operations, effective deterrence must incorporate three elements: deny benefit, impose cost, and encourage restraint.

“Deny benefit” involves measures to limit the effectiveness of an adversary’s attacks, whether those measures are active or passive. Examples of active measures include missile defenses, air defenses, or the use of special operations forces and security operations to defend against conventionally and unconventionally delivered WMD. Passive measures would include architectural changes that could, for example, bolster resilience in the space and cyber domains, and develop effective consequence management efforts, or as we say in space, the ability to operate through the contested environment. Other examples include geographically dispersing intercontinental ballistic missiles or deploying submarines at sea, where they are difficult to locate or track. This geographic dispersion could also apply to space.

“Impose cost” is the counteraction or response element of deterrence. It is the piece that garners the most focus, and is sometimes incorrectly perceived of as the totality of deterrence. Imposing cost is primarily underpinned by military capability.

For example, in the nuclear domain, the ability to impose cost includes possession of a secure second-strike capability and protected or hardened nuclear command and control capabilities. But cost imposition is not, and need not be, limited to symmetrical or same-domain responses. Indeed, deterrence may be strengthened by threatening to shift the method of response. For this reason – and because of the catastrophic potential inherent in the threat and the rapid pace of bio-technology development – the 2010 Nuclear Posture Review does not rule

out a possible nuclear response to a severe biological attack, for example, even as we seek to be clear in the PPD that the fundamental role of nuclear weapons is to deter nuclear attacks on our allies and partners. Deterrence is more than nuclear weapons, however, as the United States has a significant ability to respond to attacks using a variety of conventional means. In some instances, we find it beneficial to be explicit about the response action, but in others, we are better served by ambiguity. The bottom line is that we will always employ military tools that are proportional, are in line with U.S. policies, and exploit comparative advantages that we possess.

The third element of deterrence from the Joint Operating Concept is “encouraging restraint.” This involves convincing an adversary or potential adversary that an acceptable outcome could be obtained without taking the action we want them to avoid. There is also an element of restraint in our reactions as well that is a part of deterrence. Our restraint comes with a promise of more action if there is a response.

Having laid out this theoretical construct for deterrence, let me discuss some examples of how DoD is working to implement what we can do in space to deter others from taking action against space assets.

DoD’s approach has four, mutually supporting elements: (1) internationalizing norms that enhance stability, (2) building coalitions for collective security, (3) increasing the resilience of our architectures, and (4) being prepared to respond to attacks against U.S. and allied space assets though not necessarily in space.

Working in support of our colleagues at the State Department, and in cooperation with our international partners, we are working to promote and clarify existing norms of responsible behavior for space operations. We are doing this through bilateral space security dialogues and

engagements in multilateral fora. For example, DoD worked closely with Deputy Assistant Secretary of State Frank Rose, the U.S. representative to the UN Group of Governmental Experts, or “GGE,” on Transparency and Confidence-Building Measures in Outer Space Activities, which achieved a consensus in July. The United States was pleased to be a part of the consensus to affirm the role of voluntary, non-legally binding transparency and confidence-building measures to strengthen stability in space. This GGE report sends a strong signal: States must remain committed to enhance the welfare of humankind by cooperating with others to maintain the long-term sustainability, safety, security, and stability of the space environment.

DoD experts also worked with colleagues from around the world in providing inputs to the Working Group on Long-term Sustainability of Outer Space Activities under the auspices of the of the UN Committee on the Peaceful Use of Outer Space (COPUOS). These expert groups have developed candidate guidelines for spaceflight safety and collaborative space situational awareness that will receive further consideration next February in Vienna.

In addition to these UN efforts, we are also working with international partners on a non-legally binding International Code of Conduct for Outer Space Activities – Michael Krepon’s very own brainchild! Consistent with and in support of these multilateral efforts, we have several bilateral Track 1 and Track 1.5 discussions with China and Russia underway.

We are also working to build coalitions to enhance collective self-defense. Operating in space as we do in other domains – in coalitions with our partners and allies – bolsters the credibility, capability, and capacity of that coalition as a whole. The prospect of facing a coalition, rather than just facing the United States alone, complicates the decision-making calculus of a potential adversary...and deterrence is all about affecting that calculation in which

a potential opponent is weighing costs and risks on the one hand versus prospective benefits on the other.

In addition to these political and strategic benefits of operating in coalitions there are also very concrete benefits that we derive from cooperation with our partners in space, such as our cooperation with Australia on WGS (Wideband Global SatCom). Blazing a path for other partners, Australia bought the sixth satellite in the constellation, increasing the overall capacity of that constellation. Subsequently, Canada, Denmark, Luxemburg, the Netherlands, and New Zealand agreed to purchase the ninth WGS satellite.

Canada followed a similar cooperative approach during the options analysis phase of its Polar Communications and Weather (PCW) mission that looked at solutions for SATCOM, terrestrial weather, and space weather coverage over the North Pole and Arctic. The United States, Denmark, Finland, Norway, and Sweden fully supported that effort, along with the European Space Agency and EUMETSAT.

These cooperative efforts on WGS and PCW are concrete examples of how such cooperation can support more than one element of our approach to security in space. Our SATCOM coverage and collective SATCOM capacity are increased, and that increased SATCOM capacity brings a measure of increased resilience. In addition, the multinational nature of WGS and PCW should cause a potential adversary to think long and hard before interfering with those systems.

DoD has a variety of efforts underway to bolster resilience, which is pure “deny benefit” at work. We are exploring disaggregation, where and to the degree that it makes sense; for example, we recently funded a technology demonstration of a hosted missile warning payload. In addition, we are revising our acquisition strategies to make greater use of hosted payloads as

well as commercial and international partnerships. Funding to implement these strategies is a problem, but we will work the issue.

The fourth element of our approach is being prepared to respond. I touched on this earlier in discussing cost imposition. I think it is worth emphasizing the point, however, that we would leverage our comparative national and alliance advantages when we respond, not limiting ourselves to responses in outer space. We want to ensure that any response is credible.

We believe that this four-element approach, with all four elements working together and mutually supporting one another, will bolster deterrence. However, if deterrence fails, then these same actions will have proven to be prudent preparations to survive, operate through, and prevail in any resulting conflict.

Once again I would like to thank Michael for his invitation, and I look forward to your questions.