



Two U.S. Air Force B-1B Lancers assigned to 9th Expeditionary Bomb Squadron, deployed from Dyess Air Force Base, Texas, fly with Koku Jieitai F-2 fighter jet over East China Sea, July 7, 2017 (Courtesy Japan Air Self-Defense Force)

Twenty-First Century Nuclear Deterrence

Operationalizing the 2018 Nuclear Posture Review

By Ryan W. Kort, Carlos R. Bersabe, Dalton H. Clarke, and Derek J. Di Bello

The power to hurt—the sheer unacquisitive, unproductive power to destroy things that somebody treasures, to inflict pain and grief—is a kind of bargaining power, not easy to use but used often.

—THOMAS SCHELLING, *ARMS AND INFLUENCE*

A distinction must be made between lessons learned and fighting yesterday's war. The French experience in World War I led to the construction of the Maginot Line series of fortifications. The French neglected to adapt to changes in the operational environment, and their monolithic method for deterrence, based on established convictions that the next war would be similar in critical aspects to World War I, failed

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catastrophically during World War II.¹ The United States risks a similar misappraisal of the operational environment in how it understands, plans, and executes nuclear deterrence.

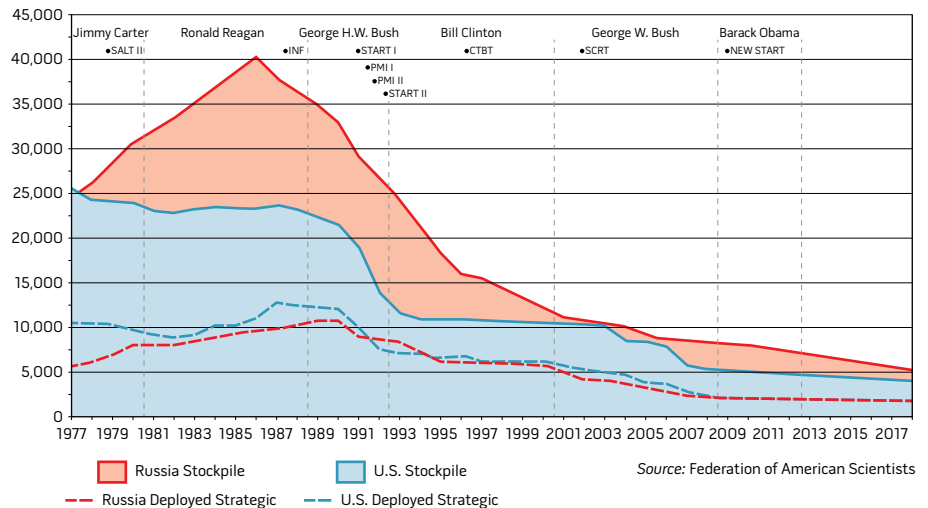
The 2018 Nuclear Posture Review (NPR) clearly lays out the challenge: “This rapid deterioration of the threat environment since the 2010 NPR must now shape our thinking as we formulate policy and strategy, and initiate the sustainment and replacement of U.S. nuclear forces.”² However, an examination of the NPRs since 1994 demonstrates the Nation’s reliance on legacy nuclear deterrence concepts despite changes in the operational environment; that reliance, when juxtaposed against a current understanding of U.S. nuclear threats, exposes a wide “say-do” gap between stated deterrence policy and deterrence in practice. The United States must eliminate its nuclear deterrence say-do gap by operationalizing the 2018 NPR through the development of doctrinal and operational concepts that enable the joint force to acquire and integrate a broad variety of deterrence activities and capabilities, ultimately delivering the tailored and flexible deterrence posture needed to succeed in the 21st century.

Atrophy of U.S. Nuclear Conceptual Thinking: 1994 to Present

The operational environment before the fall of the Soviet Union differed from the one the United States faces today. Whereas the Nation chiefly contended with mutually assured destruction in the former, it now faces multiple actors of concern that present unique threats across the spectrum of conflict—with each one deterred in a different way.³ An analysis of the 1994, 2001, and 2010 NPRs clearly illustrates this transition and contrasts with the 2018 NPR assertions that seek to remedy the decline within U.S. nuclear force doctrines and capabilities.⁴

The post-Cold War’s optimistic caution underpinned the 1994 NPR. The United States accommodated reductions in its nuclear arsenal, accompanied by the so-called peace dividend. Mild successes

Figure 1. Strategic Arms Reduction Treaty: Estimated U.S.-Russian Nuclear Warhead Inventories, 1977–2018



in nonproliferation and disarmament also marked the first half of this decade. Without an aggressive nuclear adversary and with the perception of a more stable nuclear operational environment, the 1994 NPR advocated a “Lead but Hedge” strategy.⁵ In other words, the United States would lead the world in nonproliferation and arms reduction efforts, while also hedging against future uncertainty by retaining what it considered adequate nuclear deterrence capability under the assumption of a more benign security environment compared to the Cold War era. Figure 1 illustrates the Nation’s ambitious focus on arms reduction via the first Strategic Arms Reduction Treaty.

This trajectory remained largely unchanged in the 2001 NPR, despite obvious shifts in the operational environment. As observed by Senate Foreign Relations Committee members regarding the 2001 NPR, potential U.S. adversaries changed, but post-Cold War strategic objectives remained the same.⁶ The continued marginalization of nuclear deterrence led to the formulation of the “New Triad,” which affirmed efforts to reduce nuclear capabilities and aspired to increase conventional capacities.⁷ Additionally, this strategy shifted away from the previous threat-based employment guidance and transitioned to a

capabilities-based approach in defense planning.⁸ The critical shortcoming of adopting the capabilities-based approach was the development of generic capabilities and doctrine, which proved incongruous with the gradual reemergence of peer and near-peer competitors.⁹

The 2010 NPR aimed to further reduce U.S. national security policy reliance on nuclear weapons.¹⁰ Indeed, it trumpeted the fact that the United States and Russia reduced operationally deployed strategic nuclear weapons by approximately 75 percent from Cold War levels.¹¹ While U.S. policy shifted further away from nuclear deterrence—with its attention still fixated on executing two lower intensity conflicts—Russia, China, and North Korea advanced their operational concepts and developed new or enhanced capabilities. While the United States delayed modernizing its nuclear inventory, other global competitors seized the initiative.¹²

U.S. thinking about deterrence stagnated and regressed, evidenced by a lack of joint doctrine on nuclear operations from 2006 to the present.¹³ The United States has attempted to execute deterrence largely the same way since the Cold War, with the presumption that our Cold War-era doctrine and concepts would suffice with the grave exception of devaluing its role. The implicit danger of failing to



Two long-range ground-based interceptors launched from Vandenberg Air Force Base, California, March 25, 2019, in first-ever salvo engagement test of threat-representative intercontinental ballistic missile target successfully intercept target launched from Ronald Reagan Ballistic Missile Defense Test Site on Kwajalein Atoll (Defense Missile Agency/Lisa Simunaci)

rethink doctrinal concepts is the assumption that they will continue to work in the future. Per strategist and theorist Colin Gray, correlation is not causality, and the greatest non-event in history is not necessarily proof that our previous deterrence concepts worked.¹⁴

The Competitive Space

What academic circles have termed the “Second Nuclear Age” largely describes

the nuclear power vacuum created by continued U.S. deemphasis of nuclear operations. Among the numerous actors of concern, Russia, China, and North Korea stole the opportunity and advanced their nuclear operational concepts and capabilities.¹⁵ Since 2010, despite decades of U.S. leadership to reduce the number and role of nuclear weapons on the geopolitical stage, other international actors moved in the oppo-

site direction, presenting an “unprecedented range and mix of threats” that left the United States in an operational nuclear lurch.¹⁶ While the Nation identified the need to recapitalize its strategic nuclear forces, a critical gap exists at the operational level with limited numbers of low-yield nuclear weapons intended for use on the battlefield. Figure 2 illustrates this disparity.

Russia. Russia poses the greatest near-term and existential threat to America.¹⁷ Moscow capitalized on the last 15 years, modernizing nuclear operations and equipment for achieving its aims through a variety of methods, including nuclear coercion. It violated the Intermediate-Range Nuclear Forces Treaty in 2014 by fielding a new road-mobile missile and recently began fielding its most capable missile, the RS-28 Sarmat, which Western analysts call the Satan-2. President Vladimir Putin boasted that Russian advances in nuclear technology were unmatched and unprecedented in world history.¹⁸

The 2018 NPR clearly highlights the challenge posed by Russia: “Most concerning are Russia’s national security policies, strategy, and doctrine [emphasizing] the threat of limited nuclear escalation, and its continuing development and fielding of increasingly diverse and expanding nuclear capabilities.”¹⁹ This concept is called “escalate to deescalate,” whereby Russia would seek to employ a low-yield nuclear attack in such a fashion as to make a proportional U.S./North Atlantic Treaty Organization (NATO) response politically unacceptable or impractical.²⁰ In this sense, the deescalation would be the result of Western “capitulation on terms favorable to Moscow.”²¹

In turn, U.S. and NATO reliance on the air-delivered B61 gravity bomb for in-theater (operational level) nonstrategic nuclear deterrence highlights the dilemma posed by the potential lower nuclear first-use threshold. In order to deter and respond to the potential use of nonstrategic nuclear weapons by Russia, the United States and NATO can only counter with fourth-generation Western fighter aircraft against highly capable

Russian integrated air defense systems.²² In short, Russia clearly understands and exploits this existing gap.²³

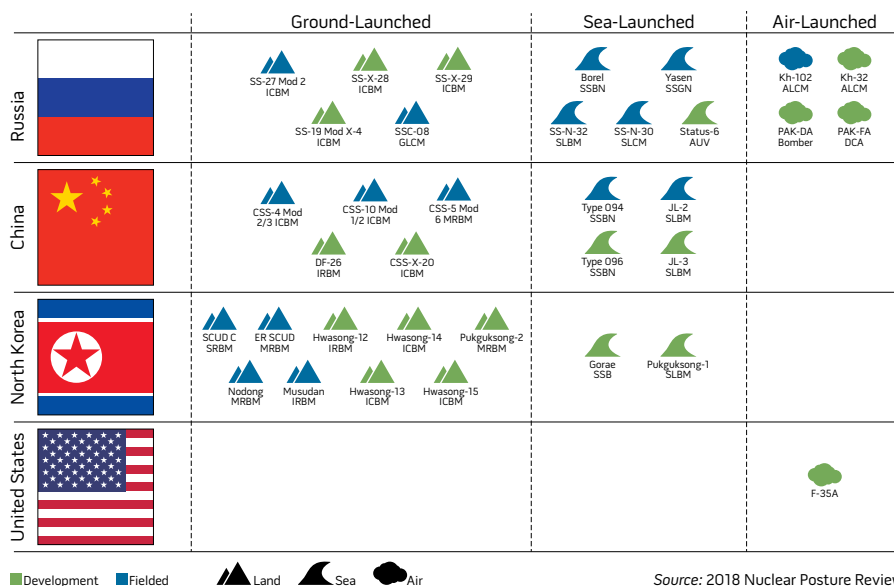
China. Largely shrouded in ambiguity, China’s expanding nuclear deterrence doctrines and capabilities pose a serious strategic challenge for how the United States conducts nuclear deterrence. In 2016, President Xi Jinping elevated China’s Second Artillery Corps, in charge of land-based nuclear forces, to become its own service, the People’s Liberation Army Rocket Force, which consolidated command and control over all nuclear forces. This is problematic for several reasons.

Coupled with its newly streamlined command and control structure, China’s lack of transparency regarding the “scope and scale of its nuclear modernization program raises questions regarding its future intent.”²⁴ In broad terms, “it is developing and testing several new classes and variants of offensive missiles, forming additional missile units, upgrading older missile systems, and developing methods to counter ballistic missile defenses.”²⁵ The quantity of these new weapons systems is also ambiguous, with estimates ranging from a few hundred to a few thousand.²⁶ It raises the question of why a country with a “no first use” policy would seek to place greater emphasis on creating a shorter kill chain with more advanced weaponry.

Uncertainty concerning Chinese nuclear capabilities, doctrine, and concepts also creates further concern when viewed in context with its other geopolitical actions. These include the claims on, creation of, and militarization of man-made islands in the South China Sea, the broader coercion by diplomatic and economic means of its neighbors, and the aggressive intellectual property theft of American/Western military-industrial knowledge.

North Korea. At the June 12, 2018, summit between the United States and North Korea, the heads of state reaffirmed the April 27, 2018, Panmunjom Declaration that committed North Korea to work toward complete denuclearization of the Korean Peninsula. As long as North Korea continues to possess nuclear

Figure 2. Nuclear Delivery Systems Employed or in Development since 2010



weapons in any number, a very real and present danger still persists.²⁷ With its economy largely dependent on its relationship with China, the much more impoverished North Korea views its possession and pursuit of nuclear weapons capabilities as existential to the preservation of the Kim Jong-un regime.²⁸

Assuming that North Korea does not dismantle its nuclear enterprise in the near future, there are inherent difficulties in shaping its behavior. The United States spent the better part of the last two decades attempting to end North Korea’s nuclear weapons program through sanctions, frameworks/agreements, and United Nations Security Council resolutions, which all sought to coax or coerce North Korea into arms reduction in exchange for goods, energy, and food. In each instance, North Korea balked and restarted its programs with limited repercussions. If left unchecked, North Korea will continue to threaten the East Asia region and perhaps one day the United States itself.

In response to North Korean missile testing, Japan and South Korea reportedly considered “the nuclear option, driven by worry that the United States might hesitate to defend the countries if doing so might provoke a missile

launched from the North at Los Angeles or Washington.”²⁹ Former Secretary of State Henry Kissinger echoed this sentiment of potential proliferation: “If they continue to have nuclear weapons, nuclear weapons must spread in the rest of Asia.”

Operationalizing the 2018 NPR

The United States must act quickly if it seeks to regain and maintain a qualitative conceptual edge over its adversaries. A sober appraisal of past nuclear thinking combined with deliberate U.S. neglect of its nuclear forces serve as the catalyst for the 2018 NPR’s admission that “the United States now faces a more diverse and advanced nuclear-threat environment than ever before, with considerable dynamism in potential adversaries’ development and deployment programs for nuclear weapons and delivery systems.”³⁰ As such, the United States must develop tailored and flexible operational concepts to ensure effective deterrence against a range of potential 21st-century actors of concern. Failure to act decisively and formulate the necessary concepts and associated capabilities to operationalize this strategy will create gaps in the U.S. extended deterrence

umbrella, which will leave allies vulnerable to coercion and increase the likelihood of a nuclear exchange. Bold action now will not only mitigate political and military risk but also present the United States with opportunities to engage with actors of concern from a position of strength to reduce the risk of miscalculation and escalation.

Russia. Russia is the only true existential threat to the United States and perceives it has advantages in nuclear posture due to its large, varied nuclear forces and escalate-to-deescalate doctrine. As such, it remains the principal actor of concern over the near- to mid-term. To overcome this challenge, the United States and NATO must incorporate the conceptual use of nuclear weapons into a broader variety and scale of exercises, while developing additional capabilities to offset Russia's numerical advantage in low-yield nuclear weapons.

The United States and NATO must demonstrate the capability to react proportionally to potential Russian first use. The advantage of integrating nuclear weapons planning into a broader variety of exercises will ensure proficiency within the force and equip U.S. and NATO leaders with a better understanding of escalation dynamics. In addition, the expansion of exercises would signal to Russia that NATO maintains the broad resolve required to employ nonstrategic nuclear weapons to protect collective interests. Incorporating dual-capable aircraft as nonstrategic nuclear weapons platforms into traditionally land-centric marquee exercises such as Atlantic Resolve will build readiness and reassure allies.

Additionally, the United States must develop or enhance capabilities that force the Russians to reconsider the validity and acceptability of adopting its "escalate to de-escalate" strategy. New delivery methods for nonstrategic nuclear weapons, such as the submarine-launched cruise missile described in the 2018 NPR, would provide additional dilemmas for Russian military and political leaders contemplating a limited nuclear strike.³¹ The United States should also consider the ability to rapidly deploy ballistic missile defenses and traditional

air defense capabilities to mitigate the Russian numerical advantage in nonstrategic nuclear weapons.

China. The 2018 NPR expresses the Nation's tailored strategy for China in broad terms. In essence, the mere possession of nuclear weapons with multiple options should allow for flexibility and therefore suffices as effective deterrence.³² However, what should be antecedent to, or at the very least concurrent with, this approach seems to be mentioned only in passing.³³ Because of China's deliberate opacity regarding its nuclear weapons programs, a lion's share of effort must be dedicated to penetrating this lack of transparency, which will provide higher fidelity for U.S. options while also mitigating the increasingly intense geopolitical dynamic in East Asia.

Remarking on the 2018 NPR, Chinese government spokesmen derided the idea that its nuclear weapons program should cause any concern for U.S. interests.³⁴ However, this discord may be born from a lack of mutual understanding as speculated in the following:

*As far as China is concerned, what is important is ensuring that it has the technological leeway to avoid being caught off guard by new innovations. Yet U.S. scholars cannot fully comprehend this way of thinking, and China and the United States have almost never engaged in any serious dialogue about it.*³⁵

In any case, the United States must close this gap and stabilize its relationship with China. In lieu of any progress made on the political front, more fully incorporating and advancing U.S. ballistic missile defenses and exploiting new strategic intelligence capabilities may prove to be an effective stopgap measure against China's nuclear weapons modernization.

North Korea. Developing operational concepts to deter North Korea poses unique challenges for the United States and its regional partners. One weakness that can be exploited is North Korea's limited number of nuclear-capable theater and intercontinental ballistic missiles. In this nontraditional view of deterrence,

the United States should seek to employ a sufficient number of ballistic missile defenses in the region not only to reduce the risk from North Korean nuclear attack but also to visibly demonstrate to the Kim regime that the United States has a sufficient number of interceptors to neutralize North Korea's nuclear threat.

Furthermore, the United States should strongly consider a potentially controversial new concept involving custodial sharing of nonstrategic nuclear capabilities during times of crisis with select Asia-Pacific partners, specifically Japan and the Republic of Korea. As with NATO, the United States would maintain ownership of these weapons, ensuring that the stipulations in the Non-Proliferation Treaty signatories remain in effect. Also, the construct will not mirror the NATO model for nonstrategic nuclear employ due to politico-military restrictions. This would have an added deterrent effect on North Korea, but perhaps the greatest advantage would be the increased pressure put on China to constrain North Korea's aggression.

The forward presence of nonstrategic nuclear capabilities in East Asia provides an additional advantage through demonstrating greater assurance to U.S. regional allies. Considering North Korea's history of aggressive nuclear rhetoric and recent missile tests, combined with the deliberate U.S. deemphasis of nuclear deterrence in national policy, this course of action would provide renewed physical evidence of U.S. resolve. It would also provide another avenue for collaboration and strengthening military partnerships through joint-regional exercises, all of which are necessary to deter potential adversaries and reassure allies.

Conclusion

On the surface it may seem that U.S. leadership in nuclear arms control and nonproliferation is altogether positive, but there have been several costly side effects. As each NPR demonstrated, the diminished U.S. nuclear posture also served to marginalize its nuclear forces, resulting in several scandals that could have ended with catastrophic conse-

quences.³⁶ Meanwhile, the operational environment changed drastically, where several actors of concern took advantage of the permissive U.S. attitude as an opportunity to advance their nuclear arsenal, thereby lessening the effectiveness of U.S. nuclear deterrence. As outlined in the 2018 NPR, however, the United States seems to recognize that it is at an inflection point.

Critics of these recommendations may likely take issue with some of the specific proposals advocated herein. A potential criticism involves the perceived moral aversion to development and integration of new nonstrategic nuclear weapons into a broader deterrence framework. Regardless of the perceived morality attached to nuclear weapons, the threat of nonstrategic nuclear weapons must be real and credible to ensure robust deterrence.³⁷ Concerning the potential criticism of including these weapons in exercises, the United States regularly integrated them into large-scale exercises during the Cold War. Only the perception of the benign strategic environment described in previous NPRs induced the United States to cease broader incorporation of nonstrategic nuclear weapons, as well as to stop developing new capabilities that would fill the current gap.³⁸ Finally, a criticism that adopting the assertive posture advocated by the 2018 NPR is destabilizing fails to provide an alternative solution to lower the risk of nuclear exchange during a conflict.

In order to defend its vital interests and reassure its allies, all while hedging against an uncertain future, the United States must maintain a credible nuclear deterrent capability and the ability to convince potential adversaries of its resolve to employ those capabilities when required. The United States must eliminate its nuclear deterrence “say-do” gap by operationalizing the 2018 NPR. As such, the development of operational concepts tailored to these specific threats rather than a generic and irrelevant capabilities-based doctrine will enable the United States to truly operationalize the 2018 NPR. JFQ

Notes

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