

Busting Myths about Nuclear Deterrence

America is embarked on a quest for a world without nuclear weapons, but we live in a world not yet safe from war and threats of war. Hence, as long as nuclear weapons exist, the United States must maintain a safe, secure, and effective arsenal—both to deter potential adversaries and to assure US allies and other security partners that they can count on US security commitments. Our nuclear posture communicates to potential nuclear-armed adversaries that they cannot use nuclear threats to intimidate the United States, its allies, or partners or escalate their way out of failed conventional aggression. The United States Air Force (USAF) will continue to maintain its responsibilities as steward of two of the nation's three legs of the strategic nuclear triad and the nation's associated nuclear command, control, and communications infrastructure.

Since the Cold War, three states (India, Pakistan, and North Korea) have developed nuclear-weapon capabilities, while Iran remains on course to do so. Moreover, ongoing nuclear modernization programs in China and Russia point to the continued importance of nuclear deterrence and assurance for our allies and partners. Some countries now have military doctrines that include potential first use of nuclear weapons in a militarized crisis, and these countries regularly exercise those doctrines. These threats require the United States to seriously consider its responsibility to educate and advocate for the commitment and investment needed to sustain nuclear deterrence capabilities in a dangerous world.

The commitment must resemble Voltaire's *Candide*, dealing with the world as it is, rather than succumbing to the quest of Cervantes's *Don Quixote*, tilting fatefully at windmills. Currently, there are too many erroneous popular myths accepted uncritically by too many people about US nuclear capability. This commentary serves as a myth buster to elucidate these beliefs and confront them with the facts about America's nuclear arsenal and the purpose that arsenal serves.

Myth #1: The United States Does Not Use Nuclear Weapons

Although no nation has detonated a nuclear weapon in war since 9 August 1945, every US president since Harry Truman has used nuclear weapons to deter or compel adversaries by communicating the message

that the United States is fully capable of employing nuclear weapons under circumstances determined by the National Command Authorities. US Navy ballistic missile submarines (SSBN) and USAF intercontinental ballistic missiles (ICBM) are used 24/7 to deter any nuclear-armed country with hostile intentions against the United States. Moreover, USAF nuclear-capable bombers also have been used to convey national resolve to adversaries and allies.

This was the case with Pres. Barack Obama's decision to fly B-52 and B-2 bombers over the Korean peninsula in March 2013. North Korea had just completed its third nuclear weapons test and successfully launched a space-launch vehicle that clearly showed Kim Jung Un's intent to develop ballistic missiles capable of delivering a nuclear warhead against an Asian ally and possibly US territory. When the global news media noticed a B-2 over Seoul, one international news agency did not report that the bat-winged, radar-evading aircraft had flown a regularly scheduled peacetime exercise. Instead, the outlet stated that the "United States flew two nuclear-capable stealth bombers on practice runs over South Korea . . . in a rare show of force following a series of North Korean threats that the Pentagon said have set Pyongyang on a dangerous path."¹ Chinese, North and South Korean, Russian, European, and US news outlets likewise focused almost exclusively on the nuclear capability of the bombers used in this mission.

Any nuclear-armed state contemplating aggression against the United States recognizes the overwhelming odds against its success and the jeopardy it faces for foolhardy acts. Silo-based ICBMs deployed across America's heartland, SSBNs patrolling beneath the world's oceans, and our nuclear-capable bombers are constant, tangible reminders of the price for nuclear aggression against the United States. *Myth #1 Busted—The fact is the United States uses its nuclear weapons every day.*

Myth #2: Nuclear Weapons Have Only Limited Utility for Their Cost

The USAF spends about \$5 billion a year to maintain ICBMs and bombers to deter nuclear attacks against the United States, and the service is committed to a 10-year, \$83.9 billion strategic modernization plan for its portion of the nation's nuclear deterrent. The Congressional Budget Office reports that the federal government will spend \$355 bil-

lion over the next 10 years for all nuclear weapons investments, including those of the USAF, the Navy, the Department of Defense (DOD), and the Department of Energy.² These actual and projected expenditures are by no means insignificant, yet the cost of a weapon system is meaningful only in relation to the capability it provides and the broader purpose it serves. Stated differently, one must measure the merits of a weapon beyond just its monetary cost relative to the threat it confronts.

By deterring the only existential threat that can destroy the United States, nuclear weapons are a bargain. This does not diminish the war-fighting capability of conventional forces, but history has shown repeatedly that conventional weapons are not an effective deterrent against major interstate war, and certainly would not be in a nuclear-armed world. In the past, civilian and military leaders often failed to anticipate the costly consequences of war. One need only consider the millions killed in the two world wars of the twentieth century to conclude that conventional forces alone do not deter national leaders determined to undertake large-scale aggression.

Yet, foreign leaders today could hardly fail to grasp the consequences of such aggression against the United States. Carl von Clausewitz observed in his classic work, *On War*, that when the potential exists for extreme violence, states should not take the first step toward war without carefully considering the last step. Because the US nuclear arsenal clarifies and sharpens nuclear-armed adversaries' thinking about war in ways other weapons cannot, those states are wary of taking the first step—because they readily grasp the image of the last step. Nuclear deterrence is thus a bargain against extreme forms of aggression. *Myth #2 Busted—Nuclear weapons are a priceless deterrent until nuclear weapons are verifiably eliminated from all countries' arsenals.*

Myth #3: Nuclear Weapons Are Going Away

Why bother spending billions of dollars to modernize US nuclear forces? Faith in the eventuality of a world devoid of nuclear weapons is the clarion call of the arms control community for radically reduced spending on nuclear weapons.³ The hope for nuclear disarmament has inspired many US presidents, most recently President Obama, but the twenty-first century presents an incontestable reality of nuclear-armed states, most notably China and Russia.⁴ The Congressional Commission

on the Strategic Posture of the United States acknowledged this reality: “The conditions that might make possible the global elimination of nuclear weapons are not present today and their creation would require a fundamental transformation of the world political order.”⁵

The commission observed—with specific reference to uncertainty about China and Russia—that “the U.S. nuclear posture must be designed . . . not just [for] deterrence of enemies in time of crisis and war but also assurance of our allies and dissuasion of potential adversaries. . . . The triad of strategic nuclear delivery systems should be maintained for the immediate future and this will require some difficult investment choices.”⁶ In 2014, nearly five years after the commission’s final report was released, the commander of US Strategic Command affirmed that foreign “nuclear powers are investing in long-term and wide-ranging military modernization programs.”⁷ Notable among these programs are China’s and Russia’s growing nuclear capabilities.

China’s once modest nuclear force is rapidly evolving in size and in quality. “Over the next three to five years, China’s nuclear program will become more lethal and survivable with the fielding of additional road-mobile nuclear missiles; five nuclear-powered ballistic missile submarines, each carrying 12 sea-launched intercontinental-range ballistic missiles; and ICBMs armed with multiple independently targetable re-entry vehicles.”⁸ In late 2014 Beijing tested its first ICBM capable of carrying up to 10 warheads, a development that has been characterized as “a significant advance for China’s strategic nuclear forces and part of a build-up that is likely to affect the strategic balance of forces.”⁹ Even the less-favored air-breathing leg of China’s nuclear arsenal will benefit from the addition of the new H-6K bomber, which is equipped with long-range, nuclear-capable Changjian-10 cruise missiles, effectively increasing the aircraft’s combat radius to reach Okinawa, Guam, and Hawaii from the mainland.¹⁰ Russia also continues a robust nuclear modernization program that includes silo-based and mobile versions of the RS-24 and mobile RS-26 ICBMs, both carrying multiple independently targetable reentry vehicles; deployment of up to eight new Borei-class SSBNs, fitted with 16 launch tubes for new Bulava ICBMs (each carrying up to 10 independently targetable warheads); and development of a new long-range bomber to be outfitted with hypersonic missiles.¹¹ Given the reality of nuclear-armed states and nuclear-weapon aspirants, the United States must make the difficult choices to sustain our nuclear deterrent. *Myth*

#3 Busted—Nuclear weapons are not going away; rather nuclear states are modernizing their arsenals, while other states seek these weapons.

Myth #4: The United States Can Deter with Submarines Alone

This myth is predicated primarily on the notion SSBN survivability is “easier to achieve” relative to fixed-site ICBMs and long-range bombers that may be vulnerable on the ground and in the air.¹² However, there are two risks with the submarine-only deterrent myth. First, while some argue the stealth of SSBNs ensures their survival for second-strike missions, the current US chief of naval operations has noted the limits of stealth-based platforms. Adm Jonathan W. Greenert has observed that the “rapid expansion of computing power also ushers in new sensors and methods that will make stealth and its advantages increasingly difficult to maintain above and below the water.”¹³ While adversaries probably could not achieve antisubmarine warfare (ASW) breakthroughs in the near term to threaten SSBNs, by divesting itself of the deterrent triad for a SSBN-based monad, the United States would necessarily create a high payoff incentive for adversaries to seek ASW capabilities to neutralize US ballistic missile submarines. Rather than saving defense resources by scrapping ICBM and bomber forces, a new and potentially destabilizing arms race could occur as each side postures and repostures below the world’s oceans.

The second risk of a submarine-only nuclear force is that the United States would have no way to demonstrate intent to nuclear-armed regional adversaries or to allies who rely on US extended deterrence to preserve peace. Locational uncertainty is necessary for SSBNs to preserve their second-strike capability; thus, submariners are highly averse to revealing their position. This vulnerability surrenders their primary method for survivability.¹⁴ However, being visible is exactly what is needed to demonstrate resolve—thus, the reason nuclear-capable bombers are so important. Ballistic missile submarines simply could not do what the B-2 bombers did over Korea in 2013. As the Commission on the Strategic Posture of the United States observed, “each leg of the triad has its own value.”¹⁵ The commission further pointed out that the unique and synergistic characteristics of the triad will remain “valuable as the number of operationally deployed strategic nuclear weapons” de-

clines.¹⁶ *Myth #4 Busted—The United States cannot safely deter nuclear aggression with a SSBN-based monad alone.*

Myth #5: The USAF Is Stuck in a Cold War Mind-Set

Although the United States took an intellectual holiday from thinking about nuclear deterrence following the Cold War, the USAF has undertaken a fundamental transformation of its approach to thinking about nuclear weapons in the twenty-first century.¹⁷ Secretary of the Air Force Deborah James has noted the diminished understanding of deterrence across the nuclear enterprise and within the USAF, even among senior leaders, and she has made a forceful call for USAF professionals to reestablish their intellectual leadership on deterrence. In addition to dozens of immediate actions under its Force Improvement Programs, the USAF is undertaking longer-range reform of its doctrine, professional military education (PME) for all Airmen, and continuing education of its nuclear professionals.

Established by the Nuclear Oversight Board, a governing body of USAF senior executives chaired by the secretary and chief of staff, the Air Force Nuclear Enterprise Flight Plan guides these initiatives. This publicly available document articulates the USAF's foundational understanding of the nature of deterrence and Airmen's role in providing the nation with nuclear deterrence capabilities.¹⁸

The USAF Chief of Staff, Gen Mark Welsh, has instituted a quarterly deterrence seminar for Air Staff principals. He leads this tabletop exercise, employing staff and outside expertise to consider various plausible near-future scenarios and debating contending solutions. USAF senior executives take this seriously, and their debates are frank, open, and sometimes contentious.

The curriculum of all USAF PME institutions is under vigorous review; new content and courses on twenty-first century nuclear deterrence are being introduced at every level. The Air Force Academy will soon offer several new courses supporting a new nuclear weapons and strategy minor for undergraduates. For all general officers and senior executives (even the chief of chaplains) there is now a senior leader course, "Nuclear 400," that engages participants in problem solving case studies of real-world deterrence operations and nuclear enterprise management challenges. Nuclear professionals are required to complete weeklong continuing education courses to refresh and renew their expertise.


The Air Force LeMay Doctrine Center is bringing together nuclear deterrence professionals from all across the USAF to make a fundamental transformation of the nuclear deterrence operations annex to Air Force doctrine and to revise the treatment of deterrence across all elements of Air Force basic doctrine. In November 2014 the Air Force Studies Board of the National Academies concluded a two-year effort to develop a comprehensive plan for developing new methods, approaches, and tools for analyzing twenty-first century deterrence.¹⁹ General Welsh directed the board's recommendations be implemented to enable USAF senior leaders to exert renewed intellectual leadership on deterrence.

America's Airmen know deterrence and are ready to articulate twenty-first century deterrence capabilities. The USAF has undertaken several activities and initiatives to reverse the lack of attention and interest that beset much of the DOD after the Cold War.²⁰ Moreover, the USAF will sustain its commitment and effort to deter extant and emerging nuclear threats in a post-Cold War world. *Myth #5 Busted—The USAF is not stuck in a Cold War mind-set—far from it.*

Conclusion

Although the United States is committed to the goal of a nuclear-weapon-free world, as long as nuclear weapons exist in foreign arsenals, there is simply no alternative path for the United States than to maintain safe, secure, and effective nuclear capabilities. As a visible signal of our intent to act if circumstances warrant, the US bomber force remains crucial for extended deterrence of threats against allies and other partners during times of crisis. ICBMs, widely dispersed around three Air Force bases, are key for deterrence of attack against the United States, because for the foreseeable future no aggressor has any prospect of disarming our land-based missile force. Ballistic missile submarines patrol securely beneath the world's oceans, ensuring a secure second-strike capability even under the direst circumstances. With the commitment of resources, the unique attributes of each leg of the triad will continue to complicate adversaries' offensive and defensive planning and contribute to America's security.

Nuclear weapons played an essential role in preventing superpower war during the Cold War. Although the potential for major state-on-state war today may be lower, it is not absent and may indeed grow; therefore, USAF nuclear capabilities, as part of the US nuclear arsenal,

continue to provide essential contributions to preserve the peace. Difficult decisions lay ahead, as the United States thinks about nuclear forces and nuclear deterrence. However, focusing on facts and applying sound reasoning can make the choices clearer. 

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Notes

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