The Need for a Strong US Nuclear Deterrent in the Twenty-First Century

Nuclear weapons will continue to have a significant influence on international security for the foreseeable future. Their elimination has not been seriously considered in any of the nuclear weapons states except the United States and the United Kingdom. France, Russia, China, India, Pakistan, and North Korea have shown no such inclination. Indeed, Russia, China, India, and Pakistan are all embarked on major nuclear weapons modernization programs. In such a world, the United States will continue to need a viable and effective deterrent to prevent nuclear attack or nuclear blackmail against ourselves or our allies. The key questions are: What constitutes a credible deterrent and how much is enough?

While the United States has deferred nuclear weapons modernization, other nations are moving forward. Among the so-called P-5 nuclear weapons states, Russia is deploying a new generation of intercontinental ballistic missiles (ICBM) and is contemplating building a second new type—a giant Cold War throwback in the "heavy" ICBM class. It is also deploying two new types of submarine-launched ballistic missiles (SLBM) and a new class of strategic ballistic-missile submarines (SSBN). China is deploying two new types of ICBMs, developing a new SLBM, and building a new class of SSBNs. It is the only one of the P-5 nuclear weapons states which continues to increase the size of its nuclear missile force. France is completing a long-standing modernization of its SLBM force. Since 2009, India and Pakistan have accelerated their subcontinental nuclear arms race, and both countries are building and testing longer-range land-based missiles. India is moving rapidly toward deployment of an SSBN and achieving a strategic triad, while Pakistan is doubling its fissile material production capability and has deployed a new generation of tactical nuclear weapons. North Korea continues its attempt to develop ICBM-class missiles. In contrast to all of this, the United Kingdom has postponed, until after the next parliamentary elections in 2015, a final decision to replace its aging SSBNs with new ships (although preliminary design work is proceeding). The United States has deferred any major efforts to modernize the three legs of its nuclear triad or its nuclear weapons infrastructure.

It should be clear that the often-repeated aspirational statement made by the nuclear disarmament and nonproliferation lobbies—that the United States and United Kingdom could "lead by example" by reducing

their nuclear arsenals and other nuclear powers will follow suit—is demonstrably false. In fact, during the past 20 years (a period of dramatic nuclear reductions by the United States and Russia and significant reductions by the United Kingdom and France), Indian and Pakistani nuclear arsenals have continued to grow, North Korea has become a nuclear weapons state, Syria began a clandestine nuclear weapons program, and Iran is on the verge of beginning such a program.

While the US and UK administrations have been reducing the role of nuclear weapons in their respective national strategies, the Russian government has placed them at the very heart of its national security strategy. Additionally, the Kremlin publicly threatened to use nuclear weapons against Russia's neighbors over the past three to four years, including an exercise in the fall of 2009 which simulated nuclear attacks against Poland. It authorized Russian strategic bombers to repeatedly undertake highly provocative flights near and into UK, US, and other NATO airspace and published a "military doctrine" which named NATO as a military threat and suggested preemptive strikes against NATO ballistic missile defense (BMD) sites.

Consequently, in a world where nuclear-armed states use their nuclear weapons for coercion and intimidation, the United States must maintain a capable, secure, and credible nuclear deterrent.

Elements of a Capable, Secure, and Credible Deterrent

Academic literature often suggests that deterrence can be accomplished in two ways: "deterrence by denial" or "deterrence by punishment." This distinction misunderstands the reality of the nuclear deterrent. *Deterrence by denial* suggests that an effective defense can blunt an aggressor's attack, causing it to recognize eventually that the planned aggression will not succeed. By extension, this suggests that a superb conventional defense, augmented by a highly effective missile defense, is a substitute for nuclear deterrence and that such a conventional deterrent alone is sufficient to prevent aggression, even against an aggressor armed with weapons of mass destruction (WMD).*

*To be clear, ballistic missile defenses play a key role in US and allied security by complicating an aggressor's risk calculus, successfully defending against small-scale attacks, and by limiting damage should an attack occur. The point here is that such defenses are a complement to, not a substitute for, nuclear deterrence.

But this plays into the fallacy of a stand-alone conventional deterrent—a determined enemy will work to negate the conventional defenses and missile defenses and, having done so, can then attack. What distinguishes nuclear deterrence is the inevitability of a devastating response, even if the victim is about to be defeated on the battlefield.

An effective nuclear deterrent consists of five key pillars:

1. A clear determination of what the deterrent is designed to prevent (an attack on a country's homeland, an ally's homeland, or on other critical assets, such as reconnaissance systems?);
2. An understanding of what constitutes the potential aggressor's vital assets which loss through nuclear retaliation would negate any benefits that aggression might hope to achieve;
3. A deterrent force structure manifestly capable of delivering a devastating attack against the aggressor's most valued assets;
4. A deterrent force structure which cannot be destroyed or fatally weakened by a preemptive attack; and
5. A declaratory policy which is credible in the mind of the potential aggressor's leadership and creates no doubt that certain forms of aggression *will* draw a nuclear response.

What is its Purpose?

For the most part, national nuclear deterrents in the twenty-first century are intended to deter either direct conventional or nuclear attack on the possessor's homeland or to prevent nuclear blackmail. The policy of the United States makes clear our nuclear weapons serve not only to deter attack on our homeland, but to protect our allies' security as well. The United States has "extended" its deterrent to cover NATO, Japan, the Republic of Korea, and Australia. This places additional demands on our force structure and strategic flexibility.

What does the Adversary Leadership Value?

Understanding what a potential adversary's leadership values is fundamental to having a credible deterrent policy. Democracies are fairly transparent, and it is relatively easy for a potential aggressor to determine what types of nuclear threats might be used to intimidate freely elected governments. Deterring authoritarian states, however, is more difficult. Authoritarian regimes usually do not share the same values as democracies. They tend to focus on preserving the mechanisms used to

control their society and ways to maintain those societies even in time of war. The worst mistake US policymakers can commit in this regard is to "mirror image"—that is, to impute their own value structure to a potential enemy's leadership.

Manifest Capability

A deterrent force must be seen as capable by potential adversaries. While it is important that a possessor government be confident its deterrent can carry out its intended mission, even in extremis, this is a necessary but insufficient condition of deterrence. The potential aggressor must recognize this as well. This requires conducting sufficient exercises, including test-firings where appropriate, to ensure that technical capability, as well as operational proficiency, is widely perceived as equal to the task. Former Defense Secretary Robert McNamara (who, while serving in office, strongly supported nuclear deterrence but later recanted his views and obfuscated his government record) probably summed this up best when he told the US Senate Armed Services Committee in 1963, "any force that has such characteristics that it cannot be thought of as an operating force cannot serve as a deterrent, and therefore, unless one has a force that has capabilities for actual operations and a force for which one has an operational plan, one, in my opinion, does not have a credible deterrent."

Survivability

A nuclear force which an enemy can destroy preemptively is a target and an invitation to surprise attack, not a deterrent. A true deterrent must have at least one force element capable of surviving a preemptive attack and retaliating effectively. In today's world, the safest means of achieving this is to deploy a portion of the force—or in some nations, the entire force—on submarines, at least one of which is continuously at sea. Having multiple types of deterrent forces increases the overall survivability of a deterrent.

A Credible Declaratory Policy

A credible policy is one which ties the protection afforded by the nuclear deterrent to a believable set of objectives in the eyes of one's own people, allies, and potential enemies. Nuclear weapons are not, and never were intended to be, all-purpose deterrents. It would not be credible, for example, to threaten nuclear retaliation in response to a proxy guerilla war in some foreign territory, a lamentable but small-scale conventional attack

on one's own forces, or even the loss of one or several orbiting satellites. Recall, for example, the North Korean seizure of the USS *Pueblo* or the Iraqi attack on the USS *Stark*. Nuclear responses are credible when linked directly to the defense of a nation's vital interests and territorial integrity and, where undergirded by treaties and decades of demonstrated commitment, to the defense of allies' vital interests and territorial integrity. A potential adversary who believes that a deterrent has been linked to the defense of something which is not worth risking national survival through the military employment of nuclear weapons is likely to test that proposition.

The Nuclear Triad: A Deterrent Force Which Has Stood the Test of Time

The US nuclear triad of land-based ICBMs, submarine-based ballistic missiles, and heavy bombers is a deterrent force which for decades has provided a survivable and manifestly capable deterrent. While its birth was unintentional (the product of interservice rivalry), the triad has shown, in its combination of basing modes, delivery systems, and warhead types, an overall capability which ensures that no enemy attack could prevent effective US retaliation. In essence, the triad has been modernized twice—in the early 1960s by the Kennedy administration and in the 1980s by the Reagan administration. As discussed below, each of the systems will require significant modernization or replacement in the next two decades.

ICBMs

The very first Minuteman I was deployed in 1963. The current system, the Minuteman III, was first deployed in 1970. Currently 450 Minuteman IIIs are deployed at three ICBM bases: F. E. Warren (Wyoming), Minot (North Dakota), and Malmstrom (Montana). The Minuteman III has received several generations of sustainment and modernization, most recently focusing on propulsion replacement, guidance replacement, and Mk21 fuse refurbishment. These last three are designed to support Minuteman III service life through 2030. The Air Force has embarked on a process to determine future ICBM needs; this will support the decision for the MM III SLEP (service life extension program) or new ICBM development in the 2015 time frame.

SLBMs

Trident D5 SLBMs are carried aboard 14 *Ohio*-class SSBNs, 12 of which are operational with about half the force at sea on any given day. Currently, 241 Trident D5 SLBMs are deployed. Each missile is estimated to carry four warheads—either the W76 or the larger, more modern W88. There is a life extension program (LEP) for the W-76 which is slated to be completed by 2018; approximately 1,200 warheads are expected to be refurbished. The Trident D5 SLBM also is undergoing an LEP that will modernize guidance systems and missile electronics and build additional D5 missiles. The *Ohio*-class submarines are undergoing cycles of refurbishment and modernization to maintain them for several more decades. As currently envisioned, they will be replaced by 12 new *Ohio* replacement program (ORP) submarines with 16 launch tubes each. The first of the new submarines was originally slated to go into service in 2029, and the last of the original *Ohio*-class submarines is to be retired by 2040. The FY-2013 budget delayed delivery of the first new SSBN by two years. This will cause the number of operational SSBNs to fall to 10 in the 2030s.

Bombers

The United States has two bombers assigned to nuclear missions—the B-2 stealth bomber and the venerable B-52H, the most "modern" of which was built in 1962. The B-2s, first deployed in 1997, carry nuclear gravity bombs. B-52s carry the AGM-86B air-launched cruise missiles first deployed in 1980. The 2010 *Nuclear Posture Review* stated that a study was seeking alternatives for a new long-range bomber. More-recent statements by the Air Force leadership state the plane will have a nuclear mission but probably not when it initially becomes operational. The Air Force has begun a program to procure a new long-range stand-off (LRSO) weapon to replace the AGM-86B, but it is not yet clear whether the program, as structured, will be affordable.

How Much is Enough?

One of the classic questions confronting defense analysts and military planners is how large a nuclear stockpile is required to be an effective deterrent. The discussion frequently focuses on a false dichotomy of what is needed to hold at risk so-called war-fighting or counterforce targets (e.g., military forces, leadership sites, and war-supporting industry) versus what is required to hold at risk countervalue targets (e.g., cities). Some

even believe, mistakenly, that US policy in the 1960s was countervalue-oriented. The simple fact is that deterrence is highly complex and rests on convincing any potential aggressor that the devastation created by our retaliation would far outweigh the benefits of any aggression, so that attacking us or our allies becomes unthinkable. This means, as noted above, that an effective deterrent requires holding at risk that which a potential enemy's leadership values most. Given the world in which we live, US deterrence requirements are driven primarily by the need to deter a future Russian leadership, should it develop hostile intent, and secondarily, by the need to deter a future Chinese leadership in the same circumstances. While other deterrence requirements exist, they can be treated as lesser included cases from a force structure and force sizing standpoint.

The recently retired commander of US Strategic Command, Gen Kevin Chilton, USAF, testified to Congress in 2010 that he was "comfortable with the force structure that we have" provided by the New START treaty, as it is "adequate for the mission that we've been given, and is consistent with NPR." That means a force of about 1,550 *deployed* strategic nuclear weapons, which translates into about 2,200–2,500 actual weapons due to the treaty's "counting rules." While some additional reductions may be justified by future positive international developments, it should be clear that radically deep reductions to only a few hundred weapons would be wholly inadequate. Such a small force would fail almost all of the requirements of a capable, secure, and credible deterrent discussed above for two reasons: First, it would not deter a direct attack on the United States, let alone threats to and blackmail of our allies, because it would be too small to threaten retaliation against the most valued assets of a Russia or China gone bad; and second, it would be too small to be survivably based and most likely would have to be deployed in a single basing mode rather than a triad. Put another way, it would be susceptible to an enemy preemptive first strike.

Conclusion

In the 300 years following the Treaty of Westphalia in 1648 and the emergence of the modern nation-state, the great powers of Europe went to war with one another an average of seven times per century. Even the horrific carnage of World War I, "the war to end all wars," which resulted in 15 million dead and 20 million wounded and decimated a generation of European males, was insufficient to prevent World War II.

But after 1945, the great powers in Europe, and elsewhere around the world, have not engaged in direct military conflict with one another.

Human nature has not changed; witness the atrocities committed in the "civilized and modern" Yugoslavia once that country imploded into civil war or the unspeakable crimes committed by terrorists over the last decade. But something else did change: nuclear weapons have made war among the great powers too dangerous. As a result, they have moderated the behavior of the great powers toward one another. But this stability is fragile.

If the United States were to reduce its nuclear deterrent to a point where it could not be extended to its allies—or even to a point where it was perceived to be unable to threaten the vital interests of potential enemy leaderships—we could see a return to the dangers of the "nuclear-free world" which preceded 1945. On the other hand, a strong and modernized deterrent will allow this nation to continue to maintain the peace and to provide for our own and our allies' security. We must not fail to ensure the peace. We must maintain a modern nuclear deterrent.

Franklin C. Miller
Principal at the Scowcroft Group, Washington, DC