

The Biden Nuclear Posture Review Resetting the Requirements for Nuclear Deterrence

As the Biden administration finalizes its Nuclear Posture Review (NPR), it faces the same challenges as the architects of the four earlier NPRs: how to make choices about nuclear deterrence and translate them into nuclear strategy and force structure. If it chooses to learn from the experience of its predecessors, the administration will confront two sets of requirements that are central to U.S. nuclear deterrence policy yet limit its freedom of action. The NPR managers would be wise not to just buy into those requirements but instead to be explicit and transparent about questioning them in order to enable choices that are based on a clear understanding of the trade-offs, as well as other possible options.

One set of deterrence requirements that is almost certainly being presented to President Joe Biden by the nuclear weapons establishment as strategic or military necessities are actually choices. A second set of requirements is the taken-for-granted assumptions that are

often overlooked. All of these so-called requirements are presumed to be based on evidence and are never challenged in a way that would determine their actual validity. They are more aspirational than necessary. They are rooted in stories that strategists, policymakers, and the military

tell themselves, each other, and the public about how they hope deterrence will work.

Discussions of nuclear strategy and force structure are full of references to things that are required. A modernized triad is a requirement for deterrence, and anything less will leave the United States vulnerable.¹ The Ground-Based Strategic Deterrent (GBSD) system, a fleet of next-generation intercontinental ballistic missiles (ICBMs), meets U.S. Strategic Command's requirements, but the current fleet of Minuteman III missiles does not.² Operational requirements necessitate no fewer than four concurrent warhead life extension programs.³ Nuclear weapons plutonium pit production at a rate of least 80 pits per year by 2030 is a requirement, otherwise U.S. nuclear weapons will not work as intended.⁴ A national military uranium-enrichment plant is a requirement, otherwise there will be no way to make tritium for nuclear weapons or fuel for naval nuclear reactors.⁵ These and many other immutable positions held by the nuclear enterprise can make it seem as if everything is a requirement and that there can be no serious alternatives without a collapse of the whole deterrence structure.

Labeling something a requirement suggests it is necessary to avoid failure. In

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Airmen from the 90th Maintenance Group at F.E. Warren missile complex in Wyoming work on maintaining an intercontinental ballistic missile (ICBM), one leg of the nuclear triad, in December 2019. (Photo by U.S. Air Force)

Pentagon jargon, however, a requirement is not required. It is the culmination of a decision-making process that found a particular outcome desirable, given other goals and constraints.⁶ In other words, something becomes required because it was the result of due process, not because it was the only option for achieving a national security goal. Requirements are, in fact, malleable bureaucratic constructions. They reflect and can change with the decision-making process and its inputs and constraints.

The unwillingness to confront the challenge of entrenched interests and ideas has led critics to judge that “all prior NPRs...have generally—and disappointingly—rubber-stamped the nuclear status quo.”⁷ This also underpins the broader observation by Admiral Charles Richard, the head of Strategic Command, that “this nation has had basically the same strategy dating back

to the Kennedy administration. It’s been repeatedly validated through multiple administrations. It would be useful to do that again.”⁸ If the Biden NPR continues this trend, it should do so only after actively challenging the requirements and assumptions.

Choices, Not Requirements

The contextual nature of requirements can be seen in the shifting arguments in support of the GBSD program. Initially, the requirement for this weapons system was based on cost. Advocates argued that it is cheaper to design, develop, and build a new fleet of 659 ICBMs and to rebuild the command-and-control systems in the 450 missile silos and 45 missile launch control facilities than to sustain the existing Minuteman III fleet.⁹ When independent analysis suggested otherwise, the requirement argument shifted to technology: the GBSD program is required

because the Minuteman III can no longer be maintained or upgraded indefinitely. Yet, numerous options to replace parts of the Minuteman system and keep it functioning for the foreseeable future have been offered. Today, arguments for the GBSD program increasingly focus on new threats that cannot be covered by the Minuteman III. Thus, the GBSD program now is a requirement for deterrence.

Before accepting that deterrence and also presumably U.S. national security rely unequivocally on the GBSD program, the administration should ask exactly what ICBMs in general and the GBSD system in particular contribute to deterrence that is necessary or unique and explore other choices to meet this requirement. For example, China’s nuclear modernization may create new targets or make existing targets more difficult to hold at risk. Yet, is deterring China somehow less effective if those targets are covered by

submarine-launched nuclear weapons alone or in combination with Minuteman IIIs? More specifically, if the nuclear-armed submarines can hold at risk 95 percent of the targets in China, is it worth the estimated \$264 billion life cycle cost of the GBSB program to increase that margin to 97 percent?

These are not rhetorical questions. The imbalance between the arsenal necessary to meet military requirements and the existing stockpile has been an enduring

characteristic of U.S. nuclear decision-making. In the early 1960s, Secretary of Defense Robert McNamara argued that assured destruction of the Soviet Union would require the ability to destroy 20 to 25 percent of the Soviet population and half its industrial capacity.¹⁰ He calculated that this would necessitate 400 one-megaton warheads. At the time, the United States had just under 18,000 megatons in its arsenal. McNamara felt that he needed to translate deterrence

into a precise requirement or it would be difficult to constrain spending on nuclear weapons.

In 2012 the military concluded it could meet all necessary military requirements with about 1,000 deployed strategic warheads rather than the approximately 1,550 deployed strategic warheads agreed under the New Strategic Arms Reduction Treaty.¹¹ Almost 10 years later, in April 2021, Richard told the House Armed Services Committee that the triad is designed to meet all presidential requirements even if one leg is lost.¹² Put simply, current nuclear deterrence goals could be met without ICBMs, either the Minuteman III or the GBSB program. There is plenty of additional evidence to suggest that the size of the arsenal is derived from something other than military requirements and that there is room for significant reductions without compromising deterrence.

Another requirement that is likely to be examined by the NPR is the production of pits, which are the hollow metal cores that enable the initial explosive reaction in a nuclear weapon. The nuclear establishment has asserted that large-scale pit production is vital because without it, nuclear weapons may not function as specified. If nuclear weapons do not work, then deterrence suffers because deterrence rests on the capability to inflict damage and on the ability to hold at risk things that the enemy values. The debate over pit production, however, is not about whether the weapons will work but how well they will work.

Military requirements for weapons performance are classified, but presumably the administration can be briefed on these requirements and on the degree to which they could suffer if pits do not function exactly as intended. For example, if the government has 90 percent confidence that a nuclear weapon will explode on target with 98 percent of its anticipated yield, does that deter less than a weapon in which there is 95 percent confidence? Given that the United States has about 1,550 deployed strategic warheads and perhaps twice that number in the arsenal of reserve warheads known as the hedge, how many of these weapons have to work at what level to deter? Does the country have enough redundant capability at least



Nuclear-powered submarines constitute one leg of the U.S. nuclear triad.

(Photo by U.S. Navy)

Deprived of the main *raison d'être*, one might expect nuclear weapons to be marginalized or at least relegated to a smaller role in U.S. strategy.

to call into question the need to spend \$18 billion—a figure certain to increase, perhaps significantly—on the required pit production capability?

The GBSD system, pit production, and multiple other choices about force structure should be considered requirements only after they survive comparison to alternative means for achieving robust deterrence, including force structure trade-offs and possible changes to presidential guidance about targeting and the acceptable margin for error. To make such choices, the administration first needs to scrutinize the myriad requirements for deterrence that often go unexamined.

Requirements for Deterrence

Nuclear weapons are said to deter many things. In April 2021 testimony to the Senate Armed Services Committee, Richard outlined numerous threats facing the United States.¹³ The list was ominous. China is bent on establishing hegemony in East Asia and denying the United States the ability to project power in the region and to maintain stable relationships with traditional allies. Russia too is focused on expanding its sphere of influence, challenging U.S. leadership, and eroding international norms. North Korea threatens the stability of the Korean peninsula, and Iran is using proxy forces in an attempt to destabilize the Middle East.

In outlining these national security challenges, Richard is no different from other Department of Defense witnesses. Indeed, there seems to be a strong consensus that the United States faces multiple, growing threats, especially in East Asia. What makes Richard's testimony stand out is not his assessment of the security situation but the nuclear arsenal that he is in charge of mustering in response. He made expansive claims

about the power of nuclear deterrence, saying it is “the foundation of our national defense policy and enables every U.S. military operation around the world.”¹⁴ More explicitly, he said, nuclear weapons provide the “maneuver space” necessary for the United States “to project conventional military power strategically.”¹⁵

The administration's NPR should make clear its perspective on the expansive role for nuclear weapons and nuclear deterrence advocated by Strategic Command. Nuclear deterrence as cover for conventional military operations around the globe and as a requirement for nuclear forces and a posture able to “deter all countries, all the time”¹⁶ is a significant expansion of the original mission of these weapons, namely deterring existential threats against the United States. Twenty-plus years after the Cold War, a “bolt from the blue” surprise attack intended to destroy the United States is increasingly dismissed as unlikely.¹⁷ Deprived of the main *raison d'être*, one might expect nuclear weapons to be marginalized or at least relegated to a smaller role in U.S. strategy.

The review also needs to consider what next steps will be necessary if nuclear weapons fail to deter conventional or other aggressive actions. Most specifically, how will escalation be controlled? The experience of Strategic Command is that escalation control never works. “It ends the same way every time,” explained General John Hyten, the Strategic Command chief, in 2018 after the annual Global Thunder wargame. “It ends bad. And the bad meaning it ends with global nuclear war.”¹⁸

In the event that Russia uses a nuclear weapon for the first time, even on a limited basis, to what extent does Strategic Command planning and U.S. credibility dictate that the president

respond not in kind but by escalating, by using just a bit more? This supposedly is the logic behind the escalate-to-deescalate doctrine, under which a country would threaten to ratchet up the violence to make an adversary back down. If Russia and the United States adopt this logic, then escalation is unlikely to be controlled, and the use of even low-yield nuclear options runs a significant risk that it will lead to mutually assured destruction.

From the perspective of deterrence, if the review endorses low-yield nuclear options, it means the administration has examined the requirements for escalation control, brinkmanship, and competitive risk-taking and has concluded that limited goals are worth the danger of total nuclear war.

At the deepest level, the most important requirement that the NPR should examine is that of rational decision-making, a concept fundamental to nuclear deterrence yet most often under-analyzed. Deterrence assumes leaders can weigh rationally the costs and benefits of their actions under any and all circumstances, if not completely then at least sufficiently to justify a final decision. Anyone who has been involved in a crisis understands, however, that this assumption is unrealistic. This is confirmed by a vast literature on foreign policy decision-making, behavioral economics, and behavioral psychology that shows people rely on a variety of less-than-rational shortcuts, especially in a crisis and when the stakes are high, information is missing or uncertain, and time is short.

Research has shown that people tend to assume the current situation is “just like” one they recently experienced or that they make a decision on the basis of a “gut feeling” rather than analyzing the available data or seeking additional relevant data. In a crisis, people tend to assume their motivations are clearly understood and assume that they are more in control of a situation than they actually are. Of particular concern is the tendency in crises for people to be biased toward risk taking rather than playing it safe. Given that in a nuclear crisis a U.S. president is likely to have 15 minutes or less to make a decision with unimaginably profound consequences,



An aging Minuteman III missile, slated to be replaced by the new Ground-Based Strategic Deterrent system, is fitted with a new cable by members of the U.S. Air Force.
(Photo by U.S. Air Force)

the NPR managers should ask themselves the degree to which they expect themselves and any adversary to behave rationally in a crisis and be prepared to explain the answer in detail and in public.

Choices and Assumptions

Given the experience of the past four NPRs, Biden can expect the review process to offer him few real options for nuclear policy reform; these options will likely allow, at best, only narrow deviations from the status quo. The nuclear weapons establishment will limit choice by presenting everything as an interlocking set of military requirements instead of multiple options for meeting deterrence goals.

As the administration weighs inputs into its review, managers could start by searching for and replacing every mention of “military requirement” with “presidential choice.” Biden can treat the requirements with which he is presented as choices that a president is entitled to make and seek new opportunities to satisfy national security needs with fewer nuclear weapons and with less reliance on the threat of their use. Biden finally could choose to reset the guidance to Strategic Command on nuclear deterrence goals. As Richard has recognized, for Strategic Command, “[T]here is a total amount of capability and capacity that’s required to execute the responsibilities that I have been given.... We don’t have capacity... to start to change that unless we change the guidance, right? And we can always do that.”¹⁹

The wisdom of developing new options for nuclear strategy and policy becomes even clearer if all questions of nuclear deterrence are seen not simply as questions of a calculus of nuclear forces and nuclear postures but as sets of unproven assumptions about the likely behavior of the United States and its potential adversaries under conditions of extraordinary uncertainty and stress with no basis for expecting a good outcome.

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Arms Control TODAY

Volume 52 | Number 1
JANUARY/FEBRUARY 2022

THE SOURCE ON NONPROLIFERATION
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