



ANALYSIS

REQUIREMENTS AND CHALLENGES FOR U.S. THEATER NUCLEAR CAPABILITIES*

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The current international security environment places stresses upon America's nuclear deterrence policy in ways we haven't seen since at least the Cold War. This new pressure, in turn, is creating a "demand signal" for new U.S. theater-class nuclear weapons. This article sets forth the circumstances that create this signal, the author's view of some of the nuclear capability requirements that grow out of it, and some of the challenges we face in meeting those requirements.

The Demand Signal

There are at least four facets of the contemporary security environment that contribute to the current demand signal for augmented U.S. theater nuclear weapons capabilities. The first is that we have more near-peer theater adversaries today than ever before—specifically, two rather than just one. When it comes to high-end conflict and especially its nuclear aspects, the world is multipolar now, and this raises tremendous problems for us.

Second, this multipolarity is particularly problematic because it isn't symmetrical. In terms of the "sides" arrayed against each other in the geopolitical arena, our two near-peers both posture in ways quite adversarial to the United States, while yet remaining on quite good terms between themselves. (The phrasing China and Russia have sometimes used about a "no-limits partnership" overstates the case—for there clearly *are* some limits—but it still makes the basic point: *they view themselves as being together against us.*) Today's new environment of "multipolarity," in other words, isn't actually very *multipolar*; it's closer to a "two-on-one" problem than it is to a truly three-way game. And, unfortunately, *we* are the "one."

A third facet is the theater nuclear capacity we have lost, for we would still be behind the game even if this all *were* a more symmetrically three-body geopolitical interaction. Pleased that the waning of the Cold War seemed to make such things irrelevant, we dismantled most of our own theater-class capabilities—along with our shorter-range "battlefield"-type systems—decades ago. To be sure, they're not *all* gone, for we have a few left, some of which are forward deployed in Europe so as to be closer to the potential targets they would need to reach via manned tactical aircraft in a Russia scenario. Nonetheless, we have precious few of these, and they are only gravity bombs rather than any kind of sophisticated standoff

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capability. (Against the modern air defenses of a near-peer adversary, actually having to *fly up to or over a target* in a manned aircraft is, to put it charitably, not optimal.)

What little we have left is thus a capability that probably doesn't frighten (and hence deter) our adversaries too much, whereas *they* have either retained or built sizeable arsenals of theater-class systems that give them a wide and diverse range of capabilities, as well as a significant advantage in raw numbers. We may perhaps be able to rely upon sophisticated conventional capabilities to partially make up for *some* of this gap, and cross-domain deterrence can indeed be valuable. Nevertheless, conventional-nuclear substitution only goes so far, especially when our traditional post-Cold War advantages in conventional warfighting capacity are being so rapidly narrowed, especially by the Chinese. Moreover, even if we *were* to succeed in besting our adversaries on the battlefield with conventional might alone, the prospect of such a defeat might *itself* drive them into the limited use of nuclear weapons there to turn the tables against us—hence presenting us with escalation management challenges that we might be unable to meet without serious theater-class nuclear capabilities of our own.

Fourth, we are also making these lopsided multipolarity problems much worse for ourselves by weakening the alliance relationships upon which we would ordinarily be able to rely in meeting adversary threats through the *aggregated* power of U.S. friends and allies acting in concert with us. Too many people in Washington seem today to regard our allies and partners as nothing more than millstones around our neck and gifting free-riders who hide behind our military skirts while we do the heavy lifting of deterrence, but this is neither accurate nor fair. This is neither entirely fair nor correct.

Yes, alliance management can sometimes be infuriating, and no, even our closest friends have agency and *won't* always simply do everything we urge them to do. (They are sovereign states, after all, not captive vassals.) And it is true that our allies rather badly need to do more—much more!—in their own defense than they have hitherto done. Fundamentally, however, we still share powerful security interests with them that include *not* seeing Russian domination of Europe and Chinese domination of the Indo-Pacific. This makes *their* power a powerful potential complement to our own, and makes it imperative that we work together.

We do not live in an “America can handle it alone” world anymore, and despite the many frustrations they can and do cause us, our friends are, on the whole great *assets* to our geopolitical power—at least, that is, if we don't screw things up by blundering about destroying their longstanding trust in our leadership and even making them see us as a threat. But even *this* would still create a need for more capable U.S. theater nuclear forces, for as long as we care about deterring Chinese and Russian aggression at all, our eroding ability to work together well with our allies would force us to lean even *more* heavily upon nuclear tools.

These four factors all add up for a rather significant demand signal for more diverse and more numerous U.S. theater nuclear forces. To be sure, we surely do not need to meet our adversaries' capabilities on a one-for-one basis. Far from it, most likely, for the uses for which they have sized their theater arsenals are different from the reasons for which we

ourselves need such tools. *They* seek nuclear leverage with which to facilitate attacking their neighbors without American intervention, while *we* seek merely to make such invasions and nuclear coercive bargaining unfeasibly problematic. The kind of “damage limitation” needs that present themselves at the strategic level—that is, the need in a potential full-scale exchange to hit as many adversary nuclear assets as possible before they can be employed against us—do not so compellingly apply in theater, and I don’t think *we* need as many theater weapons as *they* think *they* do. That said, however, we now clearly *do* need more theater-class nuclear weapons than we have today, and we need a considerably broader *range* of such capabilities than we currently possess.

What We Need

So what do we need in response to this demand signal for theater forces? To put it bluntly, we need to put more “rungs” on our proverbial “escalation ladder”—that is, we need more capacity to answer adversary nuclear coercive bargaining and escalation manipulation (including limited nuclear use) with a flexible and diverse range of responsive options of our own. We need more diverse and flexible forces to avoid being caught in the deterrence-erosive dilemma of having to choose between theater-level nuclear impotence, on the one hand, and potentially world-ending strategic overreaction on the other: we seek to avoid putting a future U.S. president in the position of having to choose between “suicide and surrender.”

The Need for More Nuclear Options

Such flexibility need not rely exclusively on nuclear tools, of course, and new well-chosen conventional capabilities can surely help too. *Some* of the answer, however, lies in having more nuclear capacity. For this reason, it is good that the United States now seems to be genuinely interested in expanding its theater-class nuclear toolkit,¹ and that the U.S. Congress has even passed a law requiring the creation of a “rapid capabilities program” for purposes of “develop[ing] new nuclear weapons or modified nuclear weapons that meet military requirements.”²

Doing something useful is generally better than doing nothing, we should be open to a variety of possible answers to this need for more capability. My own favored approach is one I described in a recent *War on the Rocks* article,³ in which I urged the development of small nuclear warheads that could be optionally swapped into existing or planned long-

¹ Angus Roque & Aaron Mehta, “Pentagon wants ‘expanding options’ for nuclear weapon, officials say,” *Breaking Defense* (August 7, 2026), <https://breakingdefense.com/2026/08/pentagon-wants-expanding-options-for-nuclear-weapons-officials-say/>.

² 10 U.S. Code § 6137.

³ Christopher A. Ford, “A New Force Posture Concept for Europeanizing Extended Nuclear Deterrence,” *War on the Rocks* (June 29, 2026), <https://warontherocks.com/a-new-force-posture-concept-for-europeanizing-extended-nuclear-deterrence/>.

range conventional precision strike missile systems of the sort that are *already* being developed and deployed.

In that article, I explored this from the perspective of what *Europeans* might do if they conclude that they can no longer rely upon U.S. provision of “extended” nuclear deterrence. Nevertheless, the same dual-capability idea would work at least as well as an *American* undertaking, and I can think of no better way to provide more theater nuclear capability more quickly, and less expensively. If we needed it, moreover, such an approach might also form the basis of a “Nuclear Sharing 2.0” system in which we make U.S. nuclear warheads available for potential deployment on a broad range of hitherto conventional allied missile systems on terms much like those under which we prepare for the wartime possibility of letting NATO pilots deliver our B61 gravity bombs.

Tailored Deterrence vs. “Satisficing”

In terms of the weapons *themselves* we might thus want to build, I suppose one would ideally seek to “tailor” our posture to the particular needs of deterrence, escalation management, and (potential) warfighting against the specific adversaries we face. This might mean, for example, assessing what your adversary most wants to protect and then building tools designed to hold those things reliably at risk—thus facilitating a strategy of “deterrence by punishment” to intimidate him into avoiding aggression. Alternatively or additionally, one could identify targets the destruction of which would simply physically *preclude* the adversary from accomplishing his objectives in a theater conflict, thereafter building tools optimized for hitting *them*—thereby facilitating a strategy of “deterrence by punishment,” as well as acquiring capabilities that would be of benefit in actual warfighting should deterrence fail.

In practice, however—as I outlined in another recent article in *Defense & Strategic Studies Online*⁴—it may be difficult to do such “tailoring” with great precision or reliability, with the result that it might not be wise for us to put all of our deterrence eggs, if you will, in the basket of high-fidelity “tailoring.” The adversary’s thinking might be too unclear to us to permit good tailoring, for instance, or we might simply misunderstand him. Or the needs of tailoring vis-à-vis Russia and its requirements vis-à-vis China might point in different directions, making it hard to accomplish both sets of goals optimally with a single force posture. Or the criteria for what would constitute good tailoring might change over time, particularly whenever new leaders take over in Moscow and Beijing. You can see the conceptual problem.

For this reason—and in an approach I have tried to make memorable by terming it Bargaining and Deterrent Arsenal Super-Sufficiency (or “BaDASS”)—it seems wiser to acquire nuclear tools flexible and numerous enough to permit the accomplishment of as great a range of different missions as possible, to some extent even beyond what we may

⁴ Christopher A. Ford, “Conceptual Challenges of ‘Tailoring’ Nuclear Deterrence,” *Defense & Strategic Studies Online*, vol. 2, no. 4 (Summer 2026), p. 1, https://dss.missouristate.edu/_Files/MSU-DASSO-2026-Vol_2-No_4-Ford.pdf.

think we currently need. If there is a “tailoring” metaphor here, it may thus be in abandoning the idea of a nice bespoke suit in favor of something more loose-fitting and durable: more Carhartt workwear, if you will, than Saville Row finery. Such a *non-tailored* answer might not be elegant or attractive, but it would likely be adequate as clothing in a much greater range of unforeseen and potentially trying circumstances.

Reversing some of the implied logic of nuclear “tailoring,” this would *not* be working from an identified need to a specific use concept, and thence to the deployment of a particular capability fine-tuned to meet that need. Rather, it would develop a maximally flexible capability, and then find ways to make some of the various things it is capable of doing support a strategy that is as coherent as possible in light of the challenges we face any given time. The basic idea of tailoring is not wrong, in other words, but we need to do it more at the level of strategy, declaratory policy, and behavior than at the level of actual capabilities.

To my eye, as applied to the challenge of theater weaponry, I’d think we need systems with variable explosive yield, high accuracy, stealthy or otherwise interception-resistant standoff delivery, a weight and size small enough to allow deployment on a broad range of delivery systems, and perhaps even an enhanced neutron flux (a.k.a. “neutron bomb”-type) option in case one wants to maximize crew-killing impact against advancing Russian units or Chinese ships trying to fight their way across the Taiwan Strait. To be sure, of course, this is an idealized list of characteristics, and in keeping with my more general theme of what Herbert Simon called “satisficing,” we may have to make trade-offs when balancing against the *also*-important values of cost, speed, and scale of production. But we do need to be thinking about concrete capabilities with an eye to the feasible maximization of our range of available responses in crisis or conflict.

With an eye to thus doing our “tailoring” primarily at the *policy* level, moreover, I’d also like to see us do more on the *conceptual* side of integrating theater and strategic effects to counter theater-class nuclear coercive bargaining or escalation games by our adversaries. This might mean, for instance, more work on cross-domain operational concepts, more serious nuclear-related coordination planning with more allies—including with the hitherto conceptually rigid and too often generally unhelpful French—and more wargaming and scenario-explorations that run notably “right of ‘Boom’” into limited-nuclear-use territory. This is also an area where the unclassified, outside-of-government world of think tanks and academia can play a role in helping increase the West’s collective “deterrence IQ.”

Addressing the Challenges

So what are the main challenges of making such a vision come true? Put simply, they relate to money, time, technical design, and politics.

Expense

The first challenge is simply cost. While there are surely less expensive and more expensive approaches one could take, the development of *any* new theater nuclear capabilities, even if

prudently chosen, will have real expense. And we should not pretend that actually paying such a cost will be easily done at a time in which federal spending seems to be more out of control than ever.

Our national debt, for instance, has doubled under Presidents Biden and Trump to an appalling \$40 trillion, creating an absolute monument to fiscal irresponsibility and a whole coop of ugly chickens, as it were, that will surely come home to roost before too long. This horrifying debt burden *isn't* primarily due to defense spending, of course—not by a long shot—for the federal government today spends more on the federal handouts of Social Security, more on Medicare, and more merely in paying *interest* on the exploding national debt than it does in defending the American people. Nevertheless, thanks to long decades of federal fiscal foolishness, making the case for spending more money on just about *anything* may become harder and harder in the years ahead.

The Need for Speed

Another constraint is *time*. We were, I fear, quite stupid years ago to hard-wire our nuclear weapons production infrastructure in place at a post-Cold War low that would quite predictably make it staggeringly difficult to build more weapons or develop new ones at any meaningful scale if the international security environment worsened, as it is now doing. This is, in principle, a fixable problem if we're willing to invest the money—and I'm pleased that we started to do so in the First Trump Administration—but it isn't fixable quickly.

In the short term, our ability to respond to new strategic challenges with more or new nuclear tools thus lies only in the "hedge" we have maintained in the form of mothballed weapons that could be taken out of storage and uploaded onto those U.S. strategic delivery systems with spare capacity. That's not nothing—and indeed a forthright call for such uploading appeared in the unanimous and bipartisan conclusions of last year's U.S. Institute of Peace report on strategic stability.⁵ Nevertheless, uploading is only a "Band-Aid" sort of a fix as long as our strategic adversaries remain convinced that they can ultimately win an ongoing arms race against us because we are unable actually to build anything more or anything new at any meaningful rate.

This means that as we move forward to try to address the problem of theater overmatch, we should place a premium upon designs that are capable of being produced not just relatively cheaply but also *rapidly*. If this entails foregoing "exquisite" weapon capabilities in favor of ones that are simply *good enough*—buying Hondas over Ferraris, if you will—so be it.

⁵ U.S. Institute of Peace Senior Study Group on Strategic Stability, *Final Report – Sustaining the Nuclear Peace: On the Urgent Need for a New Strategy of Strategic Stability* (USIP: February 2025), p. 9, <https://irp.cdn-website.com/ce29b4c3/files/uploaded/USIP+Senior+Study+Group+on+Strategic+Stability+Final+Report.pdf>.

Finding the Right Design(s)

Working merely from open sources, it is not clear exactly what actual weapons remain sitting in the long queue of retired U.S. devices awaiting dismantlement. Which of these weapons might most easily, quickly, and usefully be dusted off, tuned up, and repurposed for the kinds of roles we're talking about here? Or what designs derived from the long legacy of our weapons program might be suitable for resurrection? This question requires technical input beyond what I can provide, especially here.

In Praise of Dual-Capable Systems

For my part, however, I'm intrigued by some of the smaller devices the United States used to have—nuclear weapons which would surely fit into all sorts of modern conventional delivery systems with room and weight to spare, thus both leaving space for the clever interface gear that would be needed for nuclear “plug-and-play” optionality, and perhaps also making possible extended missile range. During the Cold War, the United States built and deployed a whole range of smaller nuclear weapons, even in the form of munitions for eight-inch (203-millimeter) and even six-inch (155-millimeter) artillery such as the W79 and the W82 with very low yields of between 100 tons to two kilotons and the option of an Enhanced Radiation Weapon (ERW) neutron flux capability of the sort I described earlier. (Nor did those particular devices depend on the same sort of plutonium “pit” that we are struggling to learn how to produce again: it has been reported that the old artillery shells relied on “linear implosion” rather than our now-current spherical pits. Perhaps such a simpler mechanism could be more “producible” at tolerable speed and scale?) As for reliability, we explosively tested a whole raft of old designs decades ago, so further testing of a “resurrected” design might not be needed.

Regardless of which smaller, variable-yield system we pursued, a modular nuclear warhead freely “swappable” in or out of precision-strike systems would provide much greater operational and long-term flexibility than the nuclear systems—the Submarine-launched Cruise Missile-Nuclear (SLCM-N) and the W76-2 lower-yield warhead for the Trident Submarine-Launched Ballistic Missile (SLBM)—the United States is known to be developing or fielding to meet theater needs. This is true for at least four reasons.

- First, because it would be “delivery system agnostic,” a modular dual-capable approach would offer us greater ability to meet *future* deterrence or warfighting needs that differ from what we presently anticipate we will face. Having variable nuclear yield and effects with a warhead that could be swapped into different delivery systems would keep us from being stuck with a delivery system that might turn out to be *not* precisely what we need for deterrence at some future point, but with which we'd nonetheless be stuck because such “bespoke” nuclear-only delivery systems take forever (and cost a king's ransom) to replace. The “radical optionality” of such a modular system would be thus a terrific way to “hedge” against future

changes in the security environment affecting operational requirements for theater nuclear delivery.

- Second, a system based around such dual-capable optionality could reduce the burdens upon scarce U.S. submarine assets—*e.g.*, the attack submarines that would be needed to deliver SLCM-N—that would also have value in a high-end conventional fight. If we could swap nuclear warheads into a range of *other* delivery systems in ways that met our needs, we’d have less need to devote precious torpedo tubes or Vertical-Launch System (VLS) capacity on our submarines to SLCM-N. (Small, modular warheads might, for instance, be carried aboard submarines as separate units without encumbering magazine capacity for conventional munitions, only being “swapped in” at the last minute if needed.) This would, again, serve the purpose of overall flexibility and optionality over time.
- Third, having “swappable” warheads would also increase U.S. leaders’ choices by giving them the option of generating additional nuclear force capacity in the field in ways that were either visible to or *not* visible to the adversary. This would allow strategic signaling options—or, alternatively, quasi-covert force generation—not feasible merely with SLCM-N and the W76-2.
- Fourth, being able to swap small nuclear warheads into new strike systems such as hypersonic missiles would permit faster response times against fleeting or otherwise high-priority adversary targets than the old Tomahawk platform used for SLCM-N, which travels at significantly less than the speed of sound—an operational deficiency likely to be particularly problematic over the vast distances of the Western Pacific. (The W76-2 can be delivered quickly since it rides on the submarine-launched Trident missile, but it has the drawback of requiring that a visibly *strategic* asset be used for delivering *theater* effects, with potentially escalatory implications.) Being able to deploy warheads on faster-moving theater systems would presumably also provide advantages in penetrating modern air defenses.

“Entanglement” Risks are Overrated

Nor would such U.S. dual-capable systems entail the kind of destabilizing “entanglement” problems that some scholars have claimed. To begin with, it is only arguable that “entanglement” is destabilizing at all, since nobody seems to fear that the ongoing rain of Russian conventionally armed but dual-capable missiles on Ukraine actually signals the start of a nuclear war. At most, the risk of mistaking an incoming conventionally armed dual-capable missile for a nuclear attack is merely *contextual*, not axiomatic.

But even if you feel that it would be better if *nobody* had dual-capable systems, that’s not the world in which we live. In *this* world, our adversaries have fielded lots of them for a long

time—and that’s not even counting multiple generations of fighter-bombers on both sides that can carry nuclear weapons if they need to. If “entanglement” is a problem at all, therefore, it’s a *worse* problem if only *one side* had dual-capable systems. In that case of asymmetric entanglement,

our adversaries might expect *us* to be at least somewhat ‘self-deterred’ by fears of attacking *their* dual-capable systems, while *they* would feel much freer to attack as many of our own (currently non-dual-capable) systems as they can.⁶

Deploying our own dual-capable systems would likely reduce the degree of destabilization by ensuring at least that its impact is not asymmetric in ways that favor Russia or China.

But I don’t want to get bogged down in such hardware questions here. I am not a technical expert, and such mere speculations from *outside* the weapons infrastructure may, from the perspective of a real weapons designer, be more embarrassing than enlightening. Nevertheless, whether or not these specific musings make any sense, I think my broader point is sound: if we are willing to be creative, there may be a great deal of *past* learning upon which we can very helpfully draw to help answer the contemporary theater-overmatch problem—if not precisely cheaply and quickly, then at least *comparatively* so.

Programmatic Sustainability

If good plans for new theater-class systems can indeed be devised and implemented, we would then face one additional major challenge: that of sustainability. Our problem of theater nuclear overmatch developed slowly, as a result of relentless Chinese and Russian building programs, as well as the Kremlin’s willingness to engage in arms control cheating by not fulfilling its “Presidential Nuclear Initiatives” promises from the early 1990s and not complying with the Intermediate-range Nuclear Forces treaty. Any “fix” to this problem will also take some time to be implemented. Even thereafter, moreover—absent significant arms control progress that *might* occur but of which we cannot be assured—we would still be faced with the challenge of sustaining that solution over some considerable period of time.

Ultimately, this raises the question of the *politics* of deterrence—that is, of whether we can sustain support for a robust deterrent posture over time. I remain confident that the American people *are* capable of that kind of enduring seriousness, both about national defense in general and about nuclear deterrence in particular.

To ensure such sustainability, however, U.S. leaders at all levels—from the most modest operational officer, think tank scholar, or academic all the way up to the president himself—will need to do a lot more to recover the ability to speak persuasively about nuclear matters, basing both their strategies and their associated public messaging on clear concepts and compelling logics. With the U.S. national security community having spent a generation or a *de facto* “strategic holiday,” it will not be quick or easy. But it is essential.

⁶ Ford, “A New Force Posture Concept for Europeanizing Extended Nuclear Deterrence.”

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