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New Challenges in Nuclear Deterrence and Posture



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New Challenges in Nuclear Deterrence and Posture

IDA Ideas guest James “Jim” Platte joins host Rhett Moeller to discuss nuclear deterrence and the geopolitical and technological factors that affect U.S. nuclear strategy. Jim is a researcher within the Strategy, Forces and Resources Division (SFRD) of the Systems and Analyses Center, an IDA-operated federally funded research and development center.

[Begin transcript]

Rhett Moeller: Hello, listeners. I'm Rhett Moeller, and I'm the host of IDA Ideas, a podcast hosted by the Institute for Defense Analyses. You can find out more about us at www.IDA.org. Welcome to another episode of IDA Ideas. Today we're going to look at a complex issue, nuclear deterrence, and specifically its role in our changing world. Much has altered since the Cold War, and there have been major technological and geopolitical changes in the last decade alone. How does this new map of many factors affect strategies of nuclear deterrence and posture? To dig into the topic, I'm here today with Jim Platte, Research Staff Member at IDA's Strategy Forces and Resources Division, or SFRD. Jim, could you take a moment to introduce yourself?

Jim Platte: Sure. Thanks, Rhett, for having me today. My name is Jim Platte. I came here to IDA a few months ago earlier this summer. Before that, I spent seven years teaching in professional military education programs with the Army and the Air Force. Also before that, [I] worked as an analyst in the intelligence community and held research fellowships with various international affairs think tanks. But generally, my career is mostly focused on the effects of nuclear weapons, strategic deterrence, Asian politics and energy security. So, I'm really glad to be here today to talk about these very important issues with you.

Rhett: Great. I'm sure you have a lot to offer, and thank you for taking the time to chat with me today. There's obviously a lot to talk about here and I'm excited to get going. Before we really get into our discussion, I think it would be helpful to get the big picture. Could you give us an idea, ... in broad strokes, of what listeners need to understand about what we'll be covering over the next few minutes, particularly about nuclear strategy, nuclear deterrence and nuclear posture? ... I think it'll be helpful to find out how they connect with each other and how they're significant.

Jim: Sure. I think ... it's good to start with just a general definition of what deterrence is. Deterrence is ... [when you influence] the decision making of another party to convince that other party not to do something that you don't want them to do. ... And typically, if we

talk of nuclear deterrence, ... [we are referring to] using nuclear weapons to produce that deterrent effect. To use nuclear weapons to convince another party not to do something. ... Nuclear strategy is how we use nuclear weapons to achieve political ends that are defined by the strategy. Deterrence could be one of those ends. It's typically the end we seek. ... There could be other ways to use nuclear weapons, but we usually use ... [them] for deterrence. And then nuclear posture is how we then ... arrange, or lay out, [and] utilize our nuclear forces in order to achieve that strategy to show that we are able and willing to achieve that strategy.

Rhett: I think that was a very clear explanation of some very important topics. And I think that makes it easy to see the true importance of what we're talking about today. I can tell from what you've shared that there are plenty of complicated elements, though. As you were answering, I was thinking how nuclear deterrence has been a pillar of U.S. nuclear strategy.

Jim: ... I think deterrence in general has been a pillar of U.S. strategy since nuclear weapons were invented in 1945 and first used ... at the end of World War II. Deterrence is a psychological phenomenon that I think is inherent in human society. ... It [had] been thought of in international relations for a long time, although it ... [hadn't] really been one of the pillars of national strategy or ... even thought of in military strategy. [This is] partly because it had been difficult to achieve. But with the overwhelming power of nuclear weapons that we saw demonstrated in 1945, scholars and practitioners quickly realized [that these weapons] ... could be employed for this deterrent mission. And in fact, American scholars looking at their use in World War II thought that because of nuclear weapons, great power war, including between great powers that have nuclear weapons, look[ed] unacceptable in the future. [They thought] that we just ... [could not] do that. It [would be] too destructive. It literally could destroy countries. So, starting in 1945 or soon after that, the U.S. really adopted a strategy of deterrence. This particularly became acute after the Soviet Union acquired nuclear weapons in the late 1940s. So moving forward ... deterrence ... [became] a bedrock of U.S. national security strategy.

I think it's good to point out, too, that there are few different ways ... [in] deterrence theory ... [to convince] that adversary or their party not to do something. The first, which we normally think of as nuclear weapons, is deterrence by punishment. [In a scenario] where the adversary has a cost-benefit calculation of doing ... [an] action, threatening retaliation with nuclear weapons increases that cost of action to an unacceptable level. Thus, ... [the adversary] will be deterred. There's also denial. [This is] where you deny the benefits of conducting the action. Thus, the adversary again sees costs outweighing benefits. This wasn't thought about much during the Cold War because denying nuclear attacks seem[ed] either not feasible or too risky to do. So, we relied on punishment rather than denial. A third way that isn't talked about as much but ... [that encapsulates] the theory is ... deterrence by inducement. If you think of another cost-benefit calculation that the

adversary has for not acting, there could be internal costs for not acting. You want to increase the benefits of not acting by taking some measures beforehand, thus producing the deterrent effect. But then, going back to nuclear deterrence, we see that it has this overwhelming, punishing effect. So not only do we ... need to base our strategy on deterrence with nuclear weapons, but we need a second-strike capability in order to ... guarantee ... the adversary that regardless of what ...[they] do first, we will be able to respond with nuclear weapons. Thus, ... [they] will be deterred from taking that action in the first place.

... A lot of thought then went into how to ... posture effectively to do this. ... That U.S.-Soviet nuclear showdown in the Cold War was very complicated, and [considering] how to do this prompted a lot of thought. And in [doing] this, too, we thought of ... what's now ... known as the three "C"s, which ... [are] capability, credibility and communication. Capability ... [means] that we ... have that second-strike capability through a variety of weapon systems. What we eventually developed was something we called the nuclear triad. ... One leg [of the nuclear triad includes] ... ground-based intercontinental ballistic missiles, one leg ... [includes] submarine-based ballistic missiles and a third leg ... [includes] air-launched [weapons] (either gravity bombs or cruise missiles). During the Cold War there was a whole plethora of other systems that were developed for tactical use or battlefield use, but [in the U.S.] those were ... gotten rid of after the Cold War. But this is how we showed our capability [and demonstrated] that we had ... [a] variety of systems that would assure ... we had both first- and second-strike capability.

Rhett: Yes, I could see how that would be the case.

Jim: ... On the credibility part (or the will), we communicated ... to the Soviets that we would follow through, ... particularly for extended deterrence where we guarantee[d] security ... [for] allies and partners. We did this through political messaging, mutual defense treaties, statements by the president or other high-level political and military leaders, and also by forward-stationing the U.S. forces in Europe and Asia. ... This showed ... [our] political will. I think the political will to respond to a nuclear attack on the United States homeland seems pretty obvious. We didn't have to communicate that quite as much, but that extended deterrence will was tricky, and ... a lot of work went into that. In addition to this messaging that ... [came] from stationing forces, ... developing systems [and] ... testing both the delivery systems and the warheads, we had direct communication with the Soviets at various levels ... in order to communicate this will. ... [The] Soviets, we hoped, would understand ... [our] political or ... strategic messaging ... and ... be deterred from taking whatever aggressive action we didn't want them to take.

Rhett: So, the last of your strategies that you mentioned, inducement, I'd never heard of or thought of before. Can you tell us a bit more about that? Maybe give some examples?

Jim: Sure. So in an inducement, you have to be aware. You know, maybe the adversary is considering taking some action that you don't want them to take. This would be in crisis, so you [might] induce them by ... supporting them on another issue. Maybe there's some territorial dispute they have, or some other issue that they have at the United Nations or elsewhere that you can provide —

Rhett: So, we'll help you with this, [and] in return you consider stepping [in] right?

Jim: Right, right.

Rhett: Got you.

Jim: And either you can make that direct linkage as you just described or you [can] ... throw it out there as a conciliation as ... a way [to] influence [them] ... to tamper down. Because ... you need to understand their internal decision making. Maybe ... they're considering an attack on a U.S. ally. Maybe there are internal parties that are important to the leadership there that are pressing for an attack. And we need to figure out a way to induce them or placate them somehow. ... I want to make clear, I don't want to consider inducement as just giving gifts. Right? [Inducement is] not just giving them money or weapons or something like that, but ... finding a way to induce them politically to bring down or to increase that benefit of not acting.

Rhett: Right. Makes sense to me. Well, obviously, Jim, many things have changed since this concept was established during the Cold War. And of course, in the wake of the collapse of the Soviet Union, the ensuing rise of China is a more important world player. If we're to learn anything from that extended period and all the things that happened in that time, what might that be? What should we keep in mind, given the state of the world today?

Jim: ... [Yes,] I do think that there is a lot we can learn by looking back at that Cold War. There was a lot written during that time, [including] both ... primary historical records [and] secondary scholarly analysis that we can still learn from. So, when we talk about the geopolitical and technological changes today that are defining our current strategic environment, we should go back and see that there are still lessons that we can draw from ... [and] that this isn't the first time we've gone through all of these issues. And I'll just bring out a couple examples, particularly on the technological change front, to show where we have adjusted our nuclear posture before in order to ... respond to that.

The first is the first offset. At the time it was called the New Look under Eisenhower in the 1950s. And at that time, the United States, our allies and NATO were facing what looked like overwhelming Soviet conventional superiority. And the Eisenhower administration decided that we cannot compete with the Soviets in terms of their conventional force in Eastern Europe, that it would just be too costly to bring that much U.S. fighting power to Europe. So, we offset it by using nuclear weapons, particularly tactical weapons that were deployed to the Army and other U.S. forces ... that were used to threaten any Soviet or

Eastern European advance into Western Europe. And so, sort of retroactively, we called this ... thinking of nuclear weapons as offsetting that conventional superiority [as the First Offset Strategy].

Rolling forward a couple decades from that, under President Carter, then Defense Secretary Harold Brown ... initiate[d] what he called an offset strategy — now we retroactively call ... [this] the Second Offset Strategy — where the Soviets and Warsaw Pact members had sort of responded to that first offset ... [by improving] defenses, particularly air defenses. They had made other technological advancements. Obviously, the Warsaw Pact coming together, too, was another ... geopolitical advancement. ... The U.S. felt that we needed to do another offset. ... Secretary Brown thought of this as ‘look deep, shoot deep’: ... deeper into Warsaw Pact and into Soviet territory. If we could threaten those Warsaw Pact forces at [an] echelon deeper into territory ... we would deter them from advancing. And so, this led to a lot of technological development on the U.S. side. William Perry, who later became Defense Secretary, led this under Secretary Brown. And a lot of the precision-guided munitions, low observable aircraft or stealth aircraft came out of this. In a way, this harkened back to ... early air power thinking [that] the bomber will always get through. Now we ... [could] see again that U.S. aircraft ... [would] get through, be able to deliver their nuclear munitions on target [and] be able to hold targets at risk deeper into Warsaw Pact ... [and] Soviet territory. ... [We saw that] this [would] deter them.

Now, these programs took a while to get online. By the time we really employed them ... [during] the first Gulf War in the early 1990s, the Soviet Union was ... on the brink of collapse. But that's how we really demonstrated that these ‘look deep, shoot deep’ concepts were going to work and again put the U.S. at a significant military advantage over adversaries. ... So, ... we've seen technological change occur where U.S. advantages ... [were] eroded and [we] initiated programs to respond to them ... [and] adjust U.S. nuclear posture to ... [deter] adversary action against the U.S. homeland and against allies.

Rhett: So, you've mentioned two offsets. I know in my own coverage of technological subjects I've also heard of the Third Offset Strategy. Is that relevant to this discussion at all?

Jim: ... The third offset ... was under the Obama administration and Robert Work, and the Defense Department was leading that effort. [It] focused more on U.S. conventional capabilities and ... integration of artificial intelligence [and] unmanned systems ... to maintain U.S. conventional superiority over adversaries. It didn't directly involve U.S. nuclear posture but advanced conventional capabilities. And that was [in] about 2014 when a lot of the third offset talk took place. And I think it's important, also, to put that into [the] context of where U.S. nuclear strategy was at the time. Because after the collapse of the Soviet Union, we went through a good 20 years or so of not thinking about nuclear weapons a whole lot, because it looked like we had a decided conventional military advantage. [The] U.S. economy was well far ahead of Russia, still well far ahead of China, and we were

hoping [relations with] China and Russia maybe could turn into at least less adversarial relations for the United States. So, this was a way to look at how ... we [could] maintain our conventional superiority. We still maintain[ed] our nuclear triad, but ... [it didn't have] the same emphasis that it ... [had] during the Cold War. And we also thought ... [about whether] nuclear weapons [were] useful in the global war on terror and those operations that were occurring at the time. But then the third offset. Some of those technologies are still being thought about, still being developed [and] employed, but ... [the Third Offset Strategy] didn't have that direct connection to nuclear weapons. ... It sort of predated ... some of our current strategic environment thinking.

Rhett: ... Got it. Well, I think that brings us up to today. Can you tell us about the current environment, how things stand right now and the challenges that this new environment poses to nuclear deterrence?

Jim: Sure. I think that there are geopolitical and technological challenges that we are facing today that have really prompted the United States to rethink nuclear deterrence, rethink nuclear strategy and how to do this, both for deterrence against attacks at the homeland and extended deterrence for our allies. ... I'll start with the geopolitical challenges, because I think those are probably the bigger challenges.

... Starting around 2016 near the end of the Obama administration, leading into the Trump administration and continuing now into the Biden administration, [the U.S. is] viewing China as more of a strategic competitor than a potential partner, ... in particular for nuclear weapons. We started to really see a large buildup in Chinese nuclear forces. China conducted its first nuclear test in 1964. You know, for the first 40 ... to 50 years of its nuclear program, it was significantly smaller than [those of] Russia or the United States. There's some scholarly debate about why was it smaller [and] why didn't they follow the same track as the other two great powers. But it was significantly smaller, and it mostly consisted of large warheads that ... would be put on to liquid-fueled intercontinental ballistic missiles and ... hold targets in the United States (or at a different time against Russia) at risk. So ... they were only viewed as a second-strike capability. ... Again, harken back to that. They would absorb a first strike and then use their ... slower responding missiles to punish the adversary for conducting a first strike. But then we started to see ... a build-out of a triad of developing submarine-based weapons, of developing bomber-based weapons, and a significant increase in the number [of weapons].

... Right now we're projecting [that] by the 2030s, China will have ... 1,000 nuclear weapons. And so, in about 10-15 years, ... the order of magnitude [has increased], moving them into ... [the position of] a nuclear peer if they're not already there. ... That presents us with something that the U.S. strategic community has dubbed the three-body problem. ... This is borrowing ... a metaphor from physics. ... If we think of two bodies interacting with each other, this is fairly easy to model, fairly straightforward, and fairly straightforward to predict how they will interact with each other. When you introduce the

third body, the math on it becomes ... significantly harder to model and predict where it's going to go. So, we borrowed that into [our] thinking ... about these three nuclear peers. This is the first time in the nuclear age that we've had a third nuclear peer come about. And so how do we manage a ... triangular deterrence relationship? Maybe simultaneously you have to deter both China and Russia, or sequentially if there are conflicts that erupt in Europe and in Asia. ... Doing this seems significantly more complicated than the U.S.-Soviet nuclear rivalry during the Cold War. So that's the biggest geopolitical change. Of course, Russia has continued its nuclear program. Both China and Russia, we think, have modernized or initiated modernization programs earlier than the United States, where we are currently modernizing all three legs of the triad and their warheads. So, we also feel that particularly Russia has ... gotten out a bit ahead on their modernization program. ... The U.S. has work there to catch up.

Technologically too, in addition to the nuclear developments over the last 20 years, we've seen outer space and the cyberspace domains become more contested. These were always, or for a long time, domains that the United States ... used for warfighting. But now they are contested. The U.S. used to have ... superior advantage in that but [is now] contested, particularly by Russia and China. ... We think that Russia and China have thought through how to use these domains to produce strategic effects. But as of yet we don't have good norms [of behavior] in these domains. ... We also don't have good understanding of escalatory dynamics in these domains. ... How do space and cyber relate to, say, their nuclear forces or their conventional forces? We also think Russia and China have better integrated their conventional space, cyber and nuclear forces together into military planning. ... These are technological changes that have occurred, bringing emerging technologies on [and] emerging domains. ... How we respond to that is ... something we're working on because they are new problems that we have not had to face in the past. ... I think it's good we talked about first offset and second offset because those are examples where, again, we saw emerging technologies or changes and responded to ... [them]. It's just going to take a lot of work now to ... figure out what ... [look] like even more complicated problems today.

Rhett: Well, Jim, obviously a lot of focus in our discussion so far has been about the geopolitics, the relations between countries and that sort of thing. But you've also mentioned technology, and that's always lurking in the background as a key component of this whole environment that we're talking about. What role does technology actually play in the state of things? How have we gotten to this point, and what role has technology played in that?

Jim: ... I mentioned the space and cyber domains. ... Those are the two that we think about, particularly, as being impactful. ... We have become as a society, not just our militaries, ... increasingly dependent on space for conducting all sorts of things. Communications, navigation and ... cyber ... [are] connected to that ... because all of those

assets that we have in space communicate with ... their ground links through the cyber domain. So, there is a direct connect between space and cyber. ... On the ground here, we use the cyber domain ... for almost everything in our lives. We're using it right now, obviously, talking through this medium, and I assume that all of our listeners will get this through the cyber domain as well.

It's hard to think about things in our lives that do not involve the cyber domain, and this includes the military. It's hard to think about any military operation that could be conducted today that does not involve cyber or space. And ... [these are] your day-to-day operations, your deterrence operations, shaping operations ... [and] largescale combat operations. All are heavily dependent on ... [cyberspace and space]. Adversaries are increasingly dependent on ... [these] too but they have seen U.S. dependence ... and think about ways to turn that from an advantage into a disadvantage for the United States. So, if adversaries can disrupt U.S. cyber networks [and] disrupt U.S. space communications, this will disrupt our military operations and thus give them an advantage on the battlefield. Or, if you can demonstrate that you can disrupt this or show some sort of technological superiority over the United States (and not just having the shiniest toy or the newest toy, but showing an advantage against the United States in its dependence on technology) this could produce effects even before the battle. If our allies see that ... the adversary has demonstrated an ability that the U.S. does not have a good response to, this can stress alliances or fray alliances. ... [Getting at our alliances] is at the heart of adversary strategies. ... Our nuclear forces are just as dependent on these domains. All of our communications among the nuclear forces occur through cyber, through space. We hope they're very secure communications, but obviously they are networks that adversaries try to get into and networks that the U.S. has to work very hard to maintain so that if needed, those communications can go through. ... While ... [these technological advances] have enabled many things for the United States, they're also something that U.S. has to keep aware of in order to make them remain an advantage rather than ... a disadvantage, which is something our adversaries seek.

Rhett: Jim, you mentioned alliances, and I know this is a prickly subject. What effect do alliances play in all of this? Can you explain what we need to know about the challenges and the needs involved?

Jim: Yes. So, alliances have played a critical role for the United States, particularly since the end of World War II. And still, our strategic documents point to alliances as a key competitive advantage for the United States. ... I think that is rightly so. But if you look at the beginning of the Cold War, U.S. strategists from [George] Kennan and [Paul] Nitze down pointed to our alliances, particularly in Western Europe and with Japan, as ... advantage[s] and something the United States needed to maintain in order to maintain a footing in the world. Since then, we have expanded those alliances to include more allies in Eastern Europe, more allies in Asia and partners throughout all other regions of the

world. But of course, the challenge is [that when] you sign mutual defense treaties with European and Asian allies in particular, this means you need to convince them that you will act on your guarantees that you have provided for them. In the deterrence world this is called assurance. You assure the ally that you are able and willing to come to their defense when it's necessary. ... With our NATO allies and Japan, South Korea and Australia we have also extended our nuclear umbrella, meaning that we say that we will use our nuclear forces to defend them to come through on our commitments. ... While this provides an advantage and it makes sure that we have a solid block of countries in the world that are on board with an idea of a liberal international order, it does mean that we have to do a lot of work to posture ourselves and demonstrate that will [and] communicate ... to our allies that we will do it.

In the nuclear world ... this means that ... if [the] U.S. nuclear arsenal was solely for central deterrence or deterring [an] attack on the U.S. homeland, we wouldn't need as many weapons. But in order to do this extended deterrence mission, we need more weapons ... to assure those allies and show that we have [a] credible nuclear force that can go through on this. It also means constantly working against adversary efforts to ... fray those alliances. ... [This could include] misinformation campaigns by adversaries to try and convince allies that we are not credible or we're not dedicated to their security, or that the U.S. is generally a malign actor in the world, all the way up to ... gray-zone operations ... (military operations below the threshold of armed conflict, harassing, say, fishing boats in the South China Sea or trying to take over uninhabited territories in the South China Sea), conducting cyber operations, malicious activities in cyberspace or other harassing activities that are meant to ... probe U.S. commitment or make an ally think that our security guarantees are no longer credible. This is a constant effort to try and both combat those from the adversary and assure the ally that we are still dedicated to their security. So, you know, I think it does create some issues that the United States needs to work through. But in the end, we have done this all for furthering what is seen as U.S. interests, which is preserving this liberal international order that was established after World War II and [that] has seen a lot of prosperity occur in the United States and in our allies. So, we view it as good for us and good for our allies. But our adversaries don't see it that way, particularly China and Russia and North Korea, [and they] desire to break those alliances. ... This is ... a first step into breaking that international order that the U.S. has led.

Rhett: Sure. ... It's obvious from everything you've shared, Jim, that the stakes are high, that we need to get this right and ... [and that it is important to do] things wisely. So, understanding that we can't discuss everything we do at IDA, how are we supporting our sponsors and using our expertise to help them understand these issues?

Jim: ... IDA [is] in a good position to support these types of things because practitioners, particularly our sponsors in the Defense Department equities and U.S. strategy and nuclear posture, ... don't ... always have the time to sort of step back and ... think through these

issues and do rigorous analysis. ... We are able to take that time ... to think through this and provide that rigorous analysis to inform their important decision making. [We] think through what are adversary intentions, what are their capabilities, what scenarios could play out in the future, how do our allies think [and] how do they factor into U.S. strategy and U.S. operations. So, we're able to do a lot of support here for our sponsors in doing that thinking ... through how does this three-body problem work. We acknowledge it's very complicated. We're able to think through simulations or exercises where we try to play this out with subject matter experts, whether it's thinking through potential contingencies in Asia or Europe and connectedness between those regions, or [through how] North Korea factor[s] into that three-body problem as potentially creating new pathways to escalation with the other two great powers. So, I think we're able to do that. We're able to bring together smart people to ... provide input to our sponsors, who are then able to better craft both day-to-day operations for the United States and those longer strategic looks that are so important. ... We're also able to take the time to review intelligence reporting and analysis on this, plus the open scholarly literature, ... to again try to bring this together [and] develop frameworks for our sponsors to ... understand these problems. [We] give them ... some potential futures: either futures we don't want to see or ways that we can try and produce a better future. [We] give them some actionable recommendations or implications that are useful for their policy making.

We're also supporting U.S. nuclear modernization. [I] mentioned the U.S. is modernizing all three legs of the nuclear triad and their warheads. So [we're] doing some analysis and assessments on the progress of those modernization programs, how they are going [and] where they seem to project into the future. So again, while planners and policymakers and strategists are thinking through this, they can also see where ... it look[s] like our nuclear force will be, say, 10 years in the future so we can provide that sort of support ... to help inform their planning. ... Even if you're a strategist that doesn't directly work on the nuclear portfolio, just having that input of saying, 'Okay, what does our nuclear force structure look like? Great. That helps me better understand how I make strategy for the Indo-Pacific or how I make strategy for Europe or elsewhere in the world.'

Rhett: It's obviously a lot of work that we are doing for our sponsors. And Jim, I appreciate you taking the time to talk with us today about this very timely topic and for sharing your expertise. It's been most illuminating.

Jim: Well, thanks for having me. I've really enjoyed the discussion. And I hope ... for our listeners [that] this has either added to their knowledge, or, if it's been a first look that that's also useful.

Rhett: Thank you for taking the time to chat with me today. As always, if you want more information on IDA and its ongoing work, please do check us out at ida.org. We also have a presence on X at [IDA_org](https://twitter.com/IDA_org), and we have a channel on YouTube. IDA Ideas is hosted by the Institute for Defense Analyses, a nonprofit organization based in the Washington D.C.

area. Once more, you can find out more about us and the work we do at IDA.org. Thank you for tuning in, and we hope you'll join us again next time as we discuss another big idea here at IDA Ideas.

Show Notes

Learn more about the topics discussed in this episode via the links below.

“America’s Strategic Posture: The Final Report of the Congressional Commission on the Strategic Posture of the United States.” October 2023. <https://www.ida.org/research-and-publications/publications/all/a/am/americas-strategic-posture>.

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