

# Nuclear Deterrence Forum: Dr. Mark Schneider

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## SPEAKERS

Dave Anhalt, Peter Huessy, Tom Neubauer, Dr. Mark Schneider



**Peter Huessy** 01:15

Good morning ladies and gentlemen. I'm Peter Huessy. I'm director of strategic deterrence studies at the Mitchell Institute of Aerospace Studies and I want to welcome you to our nuclear deterrence series. We were very pleased this morning to have Dr. Mark Schneider, who is joining us today. Dr. Schneider is a senior analyst at the National Institute for Public Policy, where he specializes in missile defense policy, nuclear weapons, arms control, verification and compliance. He previously served in a number of senior positions within the Office of the Secretary of Defense, and is chaired several working groups of the start and INF Treaty implementation Commission's Welcome back, Dr. Schneider, and thank you for taking the time to join us today. I'd like to turn it over to you for some opening remarks.



**Dr. Mark Schneider** 02:05

Thank you. I'm going to be filling in today for Dr. Steve Blank. By the way, anything I say about Russia nuclear doctrine, including the new aspects you can find in his publication center 20 years ago, he is a national assets. Anyway, we are in a very interesting period, in the classic sense of the word that if you're living in interesting times, your life expectancy might not be too high. We have found out we got a very limited taste of what a W en de

war would be like when we got hit by COVID-19. And and that's not even a real biological weapon. It gives you some idea of what the effect of WMD weapons could have on our society. Russia is a nation that has a rather unique nuclear doctrine. It has, in all probability, the lowest of nuclear weapons you threshold in the world and that may even be declining. In 2020, we got a lot of confirmation of our worst fears about Russian nuclear doctrine. In June 2020. President Putin signed and made public a decree on nuclear deterrence, that the Cree confirmed some of the most alarming aspects of unofficial Russian press reports including reports and state media about what they're planning to do with regard to nuclear weapons. As a distinguished Russian journalist Pavel Feldon Gower pointed out last year, both the Kremlin is constantly playing turns the deterrence game by trying to scare the West. But the situation has two dangerous ramifications. First, the nuclear threshold is becoming lower. In any serious of skirmish, the Russian Navy would either have you go nuclear or risk being sunk. And second, the Russian leadership believes it has surpassed the West militarily, thanks to its dazzling super weapons. And of course, these are all nuclear or nuclear capable. Moscow's threshold of the employment of military force in conflict contain situations may also drop further. It's now clear that the as I mentioned the press reports about very low Russian nuclear weapons use threshold are accurate Because they're in paragraph 19, of Putin's decree, he lists four conditions for the use of of first use of nuclear weapons. The first of these is a launch of ballistic missiles against Russia, or its allies. The second is the use of nuclear weapons or any type of mass destruction against the Soviet Russian Federation or its allies. The third is an attack by an adversary on critical government or military sites of the Russian Federation, the disruption of which would undermine nuclear forces, response actions, and fourth aggression against the Russian Federation by the use of conventional weapons when the very existence of the state was in jeopardy. Until the publication of the of DOD of this document, the number of the existence of the state formulation was supposedly their nuclear doctrine. This was routinely contradicted in Russian media, including state media. And it turned out that these reports were unfortunately very much on the mark. There are a number of very threatening aspects in paragraph 19 of the decree. First, Pavel Gower says that, in reality, it could mean a nuclear response to a single ballistic missile launch against Russia, before the Russians knew whether it was nuclear or non nuclear. The second was a change in the formulation relating to chemical and biological attack to weapons of mass destruction, which is much broader and could involve many other things. Third, the formulation of attacks that would disrupt their nuclear forces. And command and control is very significant, because they didn't say strategic nuclear forces, they said nuclear forces. And since everything is dual capable in Russia, basically, that can be read as saying you hit any any any type of Russian military base, you're disrupting their nuclear forces, because they have nuclear capable systems at every level, in their military. So that is quite disturbing. I think the intent of the formulation here is to try to deter a US conventional attack on anything in in

Russia, other than along the border in the event of a war, which means a Russian attack on one of the NATO states. And if they succeed in preventing us from waging a serious conventional response against a Russian NATO invasion of NATO territory, we're gonna lose the war. So we, we now have a much better understanding. undeniable, really, what Russian nuclear doctrine it's about. It's one other interesting thing in the doctrinal document. It talks about using nuclear weapons when sovereignty or territorial integrity of Russia is threatened. Those are pretty ambiguous concepts. So when you take a look at what Putin has said, over the years about what threatens Russian sovereignty, it's some pretty minor things. I mean, a bad editorial in a major Washington publication is, in his view, a threat to Russian sovereignty. Now, I'm not suggesting he would nuke us in response to a New York Times editorial, but he certainly has a very low threshold for nuclear, first use, certainly, Russia. There was a lot of talk in Moscow today about pre-emptive attacks against NATO. And that's very interesting. A couple years ago, a interesting study by Harvard, the Belfer Center, looked at military thought, which is the official journal of the Russian defense, or general staff, and they found at least 18 articles in this publication, advocating preemption against NATO. That's a very, very important document. Now, putting himself in 2015, he made a rather remarkable statement. Basically, he linked nuclear strategy to the tactics of street fighting. And this is a direct quote out of Putin's speech to the valve, a forum, which is a International Economic Forum. He said 50 years ago, I learned one rule on the streets of Leningrad. It is if a fight is inevitable, be the first strike. And I think that's pretty much his nuclear doctrine. Dr. Steve Blank, about 20 years ago, noted that quote, essentially, there is no clear fire break between conventional and nuclear scenarios in Russian open sources. And I think he was absolutely correct. Central to Russian nuclear strategy is the concept of escalate to de-escalate. Or more accurately escalate to, to when this goes back officially, to 2003. In a document published by the Russian Defense Ministry, I believe it actually dates from the earliest kuten doctrinal statement in 1999. Again, as Dr. Blank wrote, arguably, escalation dominance is merely a part of a much broader nuclear strategy that relies heavily on the psycho psychological and the intimidating composition component of nuclear weapons. In 2017, the director defense nuclear agency said we see them routinely practicing escalate to de-escalate in their military exercises, I think there's no question about that. Just about every major nuclear, any every major military exercise conducted in Russia, over the last two decades, is reportedly goes nuclear at the end. So we have a doctrine, which is disturbing to say the least, if I had to sum it up in a single sentence, it would be they'll use nuclear weapons anytime there's a major conflict and they think it's an in their national interest. From a return standpoint, it's our job to make sure they don't think it's in their national interest to do this. And that's critically important in light of the possible consequences of the introduction of nuclear weapons into to warfare. We have no official US government statement on the estimated number of of Russian nuclear weapons total number. I think it's clear that it's much larger than our own. In December 2019, the head of

the Russian ICBM force said that they had reduced their strategic nuclear forces by two thirds from the end of the Cold War that contrasts Radek dramatically with the previous Russian statements claiming an 85% reduction. The effect of this is if you do the math, and you get their estimates of or their statements about the size of the Soviet strategic nuclear forces. And you see, you see this in in the original Star treaty database. It means they've got over 3300 deployed nuclear warheads right now. And we certainly have in the last year, a lot of very interesting statements about the size of their capability, some of them by US government officials, for example, just a less than a month ago, General Hyten, Vice Chairman of the Joint Chiefs of Staff said they have 1000s of low yield nuclear weapons, both strategic and tactical. that confirms more or less anyway, a significant number of reports about the scale of Russian low yield nuclear weapons production. And he stated that we have to deter this with our much smaller low yield force and it is certainly much smaller that no question about that. The not leaking the the nuclear low yield Trident. There hasn't been any formal release of a number Hans Christiansen and Matt Corbett the Federation American scientists Say, we've got under 25. And we're talking about 1000s. On on the Russian on the Russian side. So that's an alarming comparison. There is other evidence of large scale Russian production of nuclear weapons. The 2019 director, Defense Intelligence Agency said they actually increased recently their nuclear weapons production capability to 1000s per year. In light of the US pit facility, scheduled for about 2030, we're going to build up to 80 a year. So there's a massive disparity there. Rather amazingly earlier this week, a German publication got a hold of a German defense ministry document which said that the Russians had 6,375 operational nuclear warheads that apparently is significantly higher than the threat level that was assumed in the 2018 us Nuclear Posture Review. Bill Gertz has stated in a number of publications that Russia is in the process of increasing its nuclear forces, they're going to build up to 8,000 nuclear warheads by 2026. And in 2019, then deputy assistant secretary of defense defense for nuclear matters. A Rear Admiral retired Peter Fanta confirmed the 8,000 numbers, ago. It is clear that the Air Force is several times larger than us to to quote Hans Christiansen and Matt Korba Federation of American Scientists and I don't think you're going to use either one of them is likely to understate our nuclear capability. They say we've got 1800 deployed warheads 1400 on on strategic missiles and 300 bomber bases and 100 non strategic nuclear weapons. So at our bases in Europe that that total under 2000. So we're talking about several to one existing Russian lead and it's and it's almost certainly going to increase in over the next decade. Russia is modernizing its strategic forces. 1997 was an interesting year the last us strategics system legacy Cold War B-2 bomber entered the US inventory. Since that time of in edifact. In 1997, the Russians began to deploy the first version of the new ss 27 mod one or they call to topple em very into system. And since that time, they have officially announced or in some cases the fence industry announced for them having gotten contracts for somewhere between 20 and 25, strategic, new strategic nuclear weapons, a few of them are updates of Cold

War systems, but almost all of them are completely new systems. That's that's an amazing situation to be in stratcom commander Admiral Charles Richards, in February, wrote an article in Naval Institute proceedings, where he summarized what their strategic nuclear programs are and what he what he said was the strategic capabilities of our competitors continue to grow, and they are sobering. More than a decade ago, Russia began aggressively modernizing its nuclear forces including the non treaty accountable medium and short range systems. It's modernizing bombers, intercontinental ballistic missiles, submarine launched ballistic missiles, nuclear powered ballistic missile submarines, Warning Systems Command and Control capabilities and the doctrine to underpin their employment. In short, its entire strategic force structure. The this modernization is about 70% complete, and on track to be fully completed within a few years. In addition, Russia is building new and novel systems like hypersonic glide vehicles, nuclear armed and nuclear powered torpedoes, cruise missiles and other capabilities So, we we have, and this is he's really, here he's talking about things that have already happened. There are a whole bunch of things, of course that they're doing that haven't quite happened yet. In December 2020, Russian Defense Minister general the army Sergei shoigu, said they modernized 86% of their strategic nuclear forces, Nate Reese would reach 88.3%. This year, the difference between Admiral Richard 70% and show you is 86% doesn't appear to be substantive appears to be definitional. The Russians count the Delta for submarines with their new cinema and liner missiles as modern systems and we don't. But however, you you, you define modern systems us in appearance right now, unfortunately, zero. Russia has announced in December 2019, it will complete its modernization of its strategic forces in 2024. Now, I want to make sure you understand that their dates are based on best case assumptions, you slip every one of them a year or two, you probably get the right ones. But certainly, they're going to complete the modernization of their entire strategic nuclear force before we even begin ours. And another fact you really got to keep in mind is it's not that modernization goes on, they replace the code or legacy systems, they get the new ones and then they stopped them the next few decades. They modernize and then modernize the modernized system is then introduced new systems to replace the new and modernized system. And that's what they're doing is a matter of fact. In December 2020, the commander of the Strategic Missile forces said that within the short and midterm they're going to start on several new ICBM projects. And you know, we're debating whether we go ahead one, they've already fielded three new or modified ICBMs. They're according to them on the verge of introducing the new sarmat heavy ICBM in 2022. I would slip that a couple years, but that will certainly come along. And their announced program involves a massive deployment of that something that can't possibly fit into any arms control regime. So we are facing a major and growing nuclear threat. There are at least six announced programs right now. They have at least six hypersonic missile programs ranging from 1000 to ?? kilometers to full ICBM ranges. They're all nuclear, armed or nuclear capable. And they're probably more coming on. In fact, they've

announced that newer types are going to be built. So we are facing a rapidly growing threat there. It's not some of these are clearly strategic. For a number of them, whether you call them non strategic or strategic is rather arbitrary, because hence on what platform you put them on, they're going to put them on a surface ships, submarines and bombers of all types, including new new types of bombers. So we're going to face a major threat here. And they're actually actually hinting very strongly about using the hypersonic missiles for preemptive strikes against the US National command authority, who himself made a veiled threat about this and it was a not very veiled threat by the Chief of their general staff and in 2019. So, we are facing that the nonstrategic force it again is massive, because of the increasing ranges here of non strategic weapons up to now 4000 kilometers whether you classify some of these as strategic or non strict Teaching is pretty arbitrary. They can do both of the nation's official us numbers 2000. And growing, I believe, based on on Russian sources, Russian government statements in a variety of other sources that it's over 5000. And very recently, Sergei Raghava very noted, Russian expert on this. And moderate by Russian standard says they've got somewhere between 3000 10,000 non strategic nuclear weapons, and it's basically the entire Cold War, inventory of weapons with updated capabilities. And we've got a compact By comparison, nothing we've got, according to core, about 100. Gravity bombs deployed and in Europe. And we have a program underway for a nuclear slick them, but it doesn't even have an official IOC date as far as I can determine right now. So we're gonna have a major advantage for a long, long time to come. Bottom line conclusions on this, the impact for deterrence, nuclear deterrence is, is absolutely critical. The consequences for the failure of deterrence can can make the COVID-19 epidemic look like a tea party. Russia, I believe, will initiate nuclear attacks in any major conflict when they see it in their interest. And we have to make sure that they don't see it. And in their interest in minimum deterrence is not a way to, to do that. I think we have been sort of sleepwalking toward minimal deterrence for a long time, that will dramatically if that continues, it will dramatically increase the risk of war and nuclear escalation. And it's not going to be an American president who pulls the trigger. The modernization of our forces are critical. We're at a situation now that they're so old that we either modernize them, replace them with new systems, or we lose the deterrent capability, haven't tested nuclear weapons in 20 years, and the Russians have, that's a major symmetry in and of itself. Until the the announcement of the Mark 93 program for a new type of nuclear weapon, we hadn't done anything in over three decades. That's a very critical program that should continue. We have to take the Russian threat very seriously, as our leaders have have seen, Pentagon leaders have now said for for many years, and we need a deterrent numbers are important too. And we, we need to maximize deterrence because of the consequences of the failure that turns we don't want to find out whether you can find a limited nuclear war. And Putin is just the person to try to start a limited nuclear war, particularly one where they assume and this is all over the doctrinal literature, that they can use nuclear weapons first, and we won't respond. That's

a really bad perception. And it's one that we should work, do everything we can to change. And literally in the last two years, we've begun to do that we've conducted exercises of the type. We haven't done this since the Cold War and exercises of the type that the Russians have done consistently through the post Cold War period. So we're beginning to send signals the right signals. I hope that continues. Thank you.

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Peter Huessy 29:13

Thank you very much, Mark. And I'm going to go to a couple of questions. Now. You have mentioned, the extent of Russia's nuclear modernization, let's go to a point that you in Steve Blank, historically have talked about is what do the Russians want to do with the new modernization that they're doing? What are their geopolitical ambitions that they believe these nuclear weapons will give them the ability to do?

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Dr. Mark Schneider 29:44

They they see nuclear weapons, it's not only the current assets, but major warfighting assets. Clearly the scope of their programs is much more than deterrence. The large introduction of low yields very low yield nuclear weapons is very stark evidence of that. Fortunately, now we have official us confirmation that the press reports we were seeing in Russia and some in the United States were were accurate on the scale of their capabilities, they make No, no secret that they want to dominate former of Soviet space. And they clearly want to also dominate Western Europe to the extent that they can. Now you're you're dealing with a nation, which has a gross national crop product, roughly the same size of Spain and Italy, that wants to be perceived as a superpower. Well, you don't have the economic power to do that you've got a large army by Western standards today. But not nearly big enough to conquer NATO, but you have a nuclear capability, which vastly exceeds probably anyway, the rest of the world combined. And that's the temptation to use this. And when you throw in classic Russian paranoia, and Putin is extremely paranoid, and at the same time, he regards Russia, you know, historic Russian imperialism going back to this artist area as completely legitimate. And you put that together with, you know, nuclear weapons, and although nuclear weapons use threshold, I think it's pretty, pretty threatening. And as I say, it's our job to prevent him from ever believing he can win a war. And that means preventing him from believing that his escalate to de escalate or escalate to win strategy is going to work. And that's a very important objective. And to do that, you're going to have to put some serious resources in rebuilding our nuclear deterrent capability. In some respects, it's literally at the point of collapse the the the nuclear weapons production complex, some elements of it, go back to the Manhattan Project, which is literally amazing. The Russian nuclear production complexes is fully functional, and according to the director of the CIA, can produce 1000s of nuclear

weapons a year new types. And they have developed new types, they said that the weapons that they're developing for the new nuclear weapons are new types, and they improved military capabilities. And there are many, many reports that they're developing very advanced nuclear weapons, very low collateral damage, very low fission products, we're not doing any of that. We haven't done any of that in over 30 years. And that's pretty disturbing, quite frankly,

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Peter Huessy 33:17

Let me ask you a question that I was gonna ask anyway. But also in that q&a, some of our participants have asked, there are those who advocate going to just bombers and submarines, and we get rid of the ICBM leg of the triad. What instabilities might arise, and how would Russia react to the United States, basically reducing our strategic nuclear delivery vehicles from 700 to 300. And, as General Hyten has pointed out, reduce the number of assets that someone would have to target to from 500 to basically around 10. could you address that Mark?

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Dr. Mark Schneider 34:00

Well, it's they would love it simplified very, in a very serious way, the possibility of effective preemptive nuclear strikes, that would take out most of our nuclear capability and could take out our national command authority. And that the I believe the triad is an essential base for deterrence. We need a strategic triad and I would take it one step further. We need a non strategic triad. We don't have that today. Where the Russians do. They have many tactical or non strategic nuclear weapons of every category. They have land base sea based Air Base. And we you know, we're left with a until we get the the B 61 mod 12 into the inventory. That's I think a few years away. We we have a 1960 vintage gravity bomb in 1980 vintage. Well, it's at vintage bombas strategic, not nonstrategic. But that's it. Air Force magazine latest issue, published the statement by the Air Force Association, and it talks about the need to modernize our fighter aircraft. It pointed out the average age of a fighter aircraft is 28 years. And most of them can't penetrate modern defenses. If you rephrase that in and talk about our nuclear capable fighter force, you would say that the average age is about saying 28 years, but none of them couldn't penetrate modern defenses. And that won't change until the F 35 comes on board with nuclear capability. And, by the way, their version of the stealth aircraft, the su 57, I don't really believe it's a true stealth aircraft. It's not fifth generation really, but it's gonna carry a hypersonic missile, probably new, almost certainly nuclear capable, and with a range of over 1000 kilometers, be my guess, based on the physical size of it compared to the potential and it's going to be carried internally. So you're going to hit and that missile according to a recent Russian press report, it's going to be suddenly appear on a whole bunch of other Russian



nonstrategic aircraft fighters and, you know, attack aircraft. So we're we're going to have a much more capable Russian non strategic force and major elements of that force will literally be capable of strategic as well as as non strategic use. The announced range on some of their cruise missiles is now 4000 kilometers with nuclear warheads on and, you know, according to one Russian Admiral, vice commander of the Russian Navy, at the time, low yield nuclear warheads

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Peter Huessy 37:24

Let me ask you a question on, you've mentioned in earlier about what General Hyten described as the potent doctrine of escalate to when others have called it escalate to into conflict on their terms. Others have criticized that assessment and said, No, it's Russia just wants to manage the escalatory ladder called escalation, dominance. And it's been a long time concern of ours, that if God forbid, nuclear weapons are ever used, you'd want to be able to stop a fight before it gets out of hand. could you address the little bit more on the criticism that it's really nothing new, that it's a defensive position of the Russians that escalate to win doesn't really have any offensive characteristic in mind.

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Dr. Mark Schneider 38:12

That view is literally head in the sand, thinking, the escalate to de escalate. doctrine, got a lot of publicity. I mean, before 2015, you find it in, in professional literature, a handful of experts worldwide, were pointing this out and going back about 20 years, and 2015, the Obama administration at the most senior level, started talking about this and pointing out how dangerous it is Deputy Secretary of Defense chair, Vice Chairman, the Joint Chiefs of Staff said it was playing with fire. And that's exactly what it is. And you will find that in publications by the defense Science Board and the Obama administration, the National Intelligence council or the Obama administration, this is not really debatable. This, it's there is it you can go out and find it in the literature. And they practice this on in their exercises, as a director of Defense Intelligence Agency stated in 2017. This is real. And it's not the defensive in the sense that despite their paranoia, they know full well that NATO was not going to attack them. And they are threatening NATO. Across the board. The large theater exercise is zapad and there'll be another version of Sapa this year. Go nuclear. Reportedly 100% of the time and They, they see nuclear weapons as one of their Ace cards. I mean, since 2007, when they started making over nuclear threats, it's probably something on the order of 30 or 40 statements by the most senior Russian government officials, including the presidents of Russia, both them about using nuclear weapons and nuclear escalation and attacking specific targets with them. And this is not a this is not this doesn't go on anywhere outside of Russia, well, maybe one exception North Korea, but that's sort of a crazy state in itself. The leadership, they're pretty wild.

But certainly among major European states, Russia is the only country that talks about the fear first used, threatens targeting the generals make statements about targeting specific targets. In native states, Russian ambassadors make statements about targeting specific targets in NATO states with nuclear weapons. It's amazing. The Orthodox Church has views on nuclear warfare, nuclear deterrence, that are fundamentally different from any other religious body in the world. It's, I mean, some of it's absolutely amazing.

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Peter Huessy 41:35

Thank you, Mark, I have another question that is, given your emphasis. And I think it's a correct one, that we should do everything possible to prevent the Russians from thinking that they can use nuclear weapons and be successful in whatever their objectives are? What would you recommend to the Biden administration in terms of adopting policies, either consistent with the past two, three administrations or something new? What would you recommend that they do in order to ensure that the Russians don't think that they can use nuclear weapons in a conflict or in a crisis and be successful in so doing?

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Dr. Mark Schneider 42:14

Well, certainly, number one, don't cut or eliminate elements of the modernization program that's on their way. It's actually the Obama administration program, the who had no real changes to the strategic triad in the 2018 Nuclear Posture Review, you know, continue to certainly keep deployed the small number of low yield, Trident weapons, you know, go on with the development of the the nuclear, submarine, launch cruise missile, and if anything, accelerated, we, we need to move away from ammonia. That's what we have in the in the sub strategic or non strategic area right now. All we got is gravity bonds. We have the strategic low yield Triton, but that's a strategic weapon. The Russians, by the way, have that too, that appeared initially in state media 1012 years ago. And it's quite possible based on a number of statements by their officials and reports in state media, that every new design Russian nuclear weapon, since the end of the Cold War has a low yield option on it. And unlike our could our nuclear low yield nuclear triad, which really isn't the low yield weapon is just much lower than the large deal, the strategic weapons, these are true low yield. I mean, state media says you're talking about yields and 50 to 200 tons of yield, these are real low yield weapons. And the possibility that they will be used, I think, is very high if Putin initiates a war against the NATO state, and the objective will be to try to get the United States and NATO to back down, except the rest of the aggression. If if that were to actually happen. It would be a catastrophe for Western civilization. To put it mildly, NATO would effectively be destroyed if it allowed any of its territory to be absorbed by military force, but by the Russian Federation. So real, real bottom line I I would suggest that they take the both Russian and Chinese nuclear threat very seriously.

Chinese, by the way, are now telling us through, you know, Global Times, which is their, you know, main English language mouthpiece of the Communist Party of China, that we are substantially under estimating their nuclear capability. A recent article, this was by the chief editor of their publication, said they have 1000 nuclear weapons, which is a lot compared to what we've got today. And certainly the terms are active in the car.

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Peter Huessy 45:41

Oh, thank you, Mark, I want to thank you for the q&a answers, we're going to go to our audience. But before we do, as an alert to our listeners, our next event is Tuesday, March 16, when the Mitchell Institute will be hosting a panel on augmented reality. We hope all of you can join us for that. And we're now going to go to our audience for questions. You can participate in the q&a by using the raise hand function on your device. Or as some of you have done on the q&a section, you've written a question to be asked which I'm going to go ahead and refer to mark. And one of the questions Mark asked, Mark was asked this is, aren't we exaggerating modernization in that it's not just you're not just including every tweak or upgrade to a system, but you're talking about a new system? When you talk about Russian modernization? Could you explain a little bit more of how you define that and why you think that significant and it's not just a minor upgrade to an existing program?

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Dr. Mark Schneider 46:52

Well, actually, it's just the the opposite most of the 2025 systems we're talking about are clearly new by any definition of what constitutes new, they were not in existence. When the Soviet Union died, they are things that the Soviet some cases developing some cases well beyond what the Soviets were developing. And in, in the last year or so, of the Soviet Union. I mean, the only systems that we're talking about that would be characterized as a operate of existing systems and the missile category, it's the sin of n liner, which are major updates of the SSN 23 with two and a half times as many warhead capabilities as well as various operates when they don't do life extension. When they when they do a what we would call life extension. It's really an operate and no military capabilities. The T u 160. m two is the major operator of the bomber. More important than even the electronics and the new capabilities are putting in are the missiles that it's carry. There are now at least three types of nuclear armed or nuclear capable air launch cruise missiles that have been already introduced into the Russian Air Force to be carried by these bombers, including the new ones, hypersonic missiles. They're in the process of deploying the the kinsel the which is Iran ballistic missile maneuvering ballistic missile capability, the smaller version of the cancel that will be carried by more of the fighters. That's that one, according to a very recent Russian press report will be star testing in 2023. As of now, there is not certainly

there is no announced us program for a nuclear capable hypersonic missile and I don't believe there's any black program around anywhere trying to do that. So they're going to have a monopoly on these sorts of capabilities and they're going to get better and better. They're they're already claimed, they have Mach nine capabilities on desert calm powered cruise missile, the kinzel was in Mach 10 or Mach 10 plus speed category. Us defensive capabilities against these are either non existent or almost non existent right now. We need to do something about this as quickly as we can. There's no reason why we can't have capabilities against hypersonic missiles. It's just that we didn't give it the money because it wasn't a priority because we, until very fairly recently, we basically pretended that there weren't any Russian hypersonic programs on their way. Now we know that they not only exist, but they're big time things, and they're getting better.

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Peter Huessy 50:19

Let me turn Mark now to my friend, David and Paul, who was going to relate his question, but David, why don't you go ahead? I know it's a multi part question dealing with important command control and communication. And why don't you ask mark your question, and thank you for participating.

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Dave Anhalt 50:37

Okay, thank you very much. And Dr. Schneider, this is where I'm headed with this. You described this massive program for developing new nuclear weapons with many different types, many different platforms, many different ranges, far exceeding what, what the paid box had during the Cold War. Could you describe outside of the scope of the weapons themselves, but the modernization of Russian nuclear command and control for the deployment of this vast Armada? In particular, how is the Russian nuclear modern Russian nuclear command and control different than the old Cold War type, I mean, for instance, are as putting delegated decisions for escalating to nuclear war to Russian generals or Russian colonels. I mean, what characterizes this modern nuclear command control that must be more splendiferous than what the old Cold War version was over? Thank you.

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Dr. Mark Schneider 51:37

Well, it's similar in in many respects to the old Soviet system, but much more modern. They are engaged in the construction of a new generation of Ultra Deep ultra hard bunkers, putting in the 2020 Soshi meetings, and they have an annual meeting for last 15 years, where they talk about their their, you know, military modernization capabilities. This time, it was very unusual. The only public announce things that were said at Sochi related to the strategic nuclear forces and to nuclear command and control kooten spent one

day and in terms of the open part of the meeting, obviously, they're not, you know, most of the meetings are closed. But he he talked about their new nuclear bomb proof of Bunker system that was just about operational. And there have been statements about these in some of the earlier versions of the annual report by the intelligence community going back almost 10 years. So there, this is very credible, credible. And Bill Gertz has written several articles where he's talked about the new bunker construction program. So that, you know, they they have built the system, which in a practical sense, is basically virtually impossible to to attack with any real reliability. We don't have the weapons capability to do it. We don't we're not developing a weapon that's optimized for attacking these type of facilities. The the perimeter system or dead hands at sometimes called, is probably almost certainly, I believe, still operational. I don't believe it's particularly sinister in the sense the descriptions of if you find it in Russian open sources, it is one where it will function only if the central government has taken out the military and all the all the bunkers. It's not something that's automatic, it's something that can be stopped. If it were to, you know, accidentally activate and I think the chances of accidental activation are pretty low. So the the the fundamental difference is, they take nuclear war seriously, we don't. Everything in the US depends on getting the president out of Washington and out of a blast nuclear blast area before the weapons get here. The problem with that with the new hypersonic missiles is you may have as little as five minutes, warning time before you start getting nuclear detonations in Washington. So we have a very, very serious nuclear command and control problem. And I think we it's one of the things we really need to do something about About, you don't want them to believe that they can do a preemptive strike and take out the national command authority. In 2019, Vladimir Putin made a reference to pre emptive attacks on the president. He urged the US government to look at the timelines he didn't elaborate. But the Russian press next day immediately elaborated and talked about pre emptive attacks of hypersonic nuclear missiles against the national command authority. And then the general, the army harass him of Chief the General Staff made a very explicit statement about attacking nuclear or whatnot nuclear command, control, national command and control. And the only way to do that, of course, is with with nuclear weapons, we our experience with taking out Saddam Hussein is conventional weapons don't work very much in this sort of this sort of objective, you really do need a nuclear capability if you're going to try to take out the government. So I think we need to try to enhance the nuclear commandment approach, we got to do something about the EMP vulnerability we've allowed to develop. There's some indications Air Force is really now taking that seriously and going ahead with operates on on EMP vulnerability. And I very strongly support that it's long overdue.



Peter Huessy 56:35

Let me go to Tom Neubauer, who also has a question, Tom, welcome to the seminar. Let's

hear what your question is.



Tom Neubauer 56:45

Actually, Peter, I don't actually have a question, but I appreciate you see my hand up.



Peter Huessy 56:50

Okay.



Tom Neubauer 56:52

Last caller address that very well. Thanks.



Peter Huessy 56:54

Okay. Well, thank you, Tom. Mark, we did have one other question came in? And what is the Russian view of the Chinese nuclear capability? How much does that factor into what the Russians are doing today?



Dr. Mark Schneider 57:09

Going back 20 years, you can find Russian military officers, most of this is that the Oh 506 level, talking about the size of the Chinese nuclear capability and putting it levels that are much higher than normal Western estimates. And in that time period, I think it's clear, they take the Chinese nuclear threat very seriously. However, in this is a very big, you know, footnote. It's not politically correct in Russia, to say that. So they, they, they have to hide that perception. If you talk to them on the margins of conferences where they attend, and they know you and privately, they'll admit that they, they they're concerned about Chinese people, but they won't say it in public. They're even taking actions to augment it to some degree anyway, the Chinese nuclear capability. Victor mcao, off who he's now deceased, but he was the chief, or the, the Minister for atomic energy in Russia. He was after that he was director of the sarrah nuclear weapons laboratory used to have a website up and personal website, and he has a picture of a gold medal awarded to him by China, and he bragged that it had 87.5 grams of pure gold in it. Now, he didn't get that for nothing. So there are reports that McHale off was involved in nuclear illegal in the sense of from the Russian government standpoint. Transfer of data from the Russian nuclear weapons establishment to the Chinese nuclear weapons establishment. And there are rumors that his firing and demotion ll firing less than one week and he was reinstated, but he was reinstated one level lower as principal head of the Atomic Energy ministry there

there are rumors in Russian press that that was over transfer of nuclear Weapons related information to the Chinese and there are reports of technology transferred to the Chinese relating to Strategic Missile systems. I mean, this is not an enormous body of literature. It's pretty small actually. But I think it's, it's reasonably credible.



Peter Huessy 1:00:19

Mark, I, want to thank you come to the end of our, this nuclear deterrence series seminar. A big thanks again, to you, sir, and to our audience. And from all of us here at the Mitchell Institute. I want to urge you all to have a great aerospace day. Again, Mark, thank you very much. And I want to particularly thank our staff here at the Mitchell institute that helped make these possible they do great work, and I want to thank them for all the work they do. And again, Mark, thank you for this. And thank you, everybody. Take care.