

TRANSCRIPT

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**Vice Chairman, Joint Chiefs of Staff**

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GENERAL PAUL J. SELVA: Thanks for taking the time to do this. I'm not going to spend a lot of time on any kind of opening comments, because I know if I talk you don't get to eat.

Good morning. Oh, our recorder. That's fun.

Q: (Inaudible.)

GEN. SELVA: That's fun.

Q: A certain number of those will be showing up.

GEN. SELVA: Yeah, I'm sure they will.

I'll just – I'll give you a quick context of the stuff that I've been dealing with over the last couple of weeks. That might help one or two of you with formulating questions, although I'm willing to be you have your questions ready already.

So the big work in the building over the last several weeks has been centered around strategy and budget. So you know we still don't have a budget, we're still cranking on whether or not the '18 CR is going to be yet another CR or a budget. We can talk about that if you'd like and the things that that causes. We're also on the verge of being able to submit to the Hill our '19 proposed budget, which will happen in the next several weeks.

There ought to be more than just a little irony in your mind over the fact of we're trying to deliver a proposed budget on time to the Hill when we don't know what we're actually going to get for '18. This is called gambling and most of us don't do it with our own money. I'll leave it at that.

Can you not hear me down there?

Q: I can.

GEN. SELVA: Oh, OK. You're good? I'm good, thank you. I'm just going to do probably – so that's the budget side kind of in a nutshell.

On the strategy side, it's probably not lost on most of you that we released the National Defense Strategy right after the White House released the National Security Strategy. Willing to talk about those.

On the timeline of what's happening in the next couple of weeks, we're on schedule so far to release the Nuclear Posture Review on the 2nd of February – tentative release date, we haven't locked that in yet – and then the Ballistic Missile Defense Review will follow several weeks after, in large part because the work in the Ballistic Missile Defense Review is, in some cases, derivative of the work in the Nuclear Posture Review. So it was necessary that we put a little bit of a firebreak between the two studies being released.

And so I'm going to stop there because that's not a lot of content. It's mostly schedule. And I'm going to let you guys focus on the content.

And so I'm going to let you be the moderator and pick who gets to ask questions, that way I don't get accused of not letting somebody ask a question.

And my understanding is we're completely on the record and I'm A-OK, all right with that if you are. So be eloquent in the formulation of your questions.

MODERATOR: So I'll start by saying thank you, David.

We'll have some brief introductory remarks and then we'll jump right into things after that.

GEN. SELVA: Awesome.

MR. ENSOR: I just – I just wanted to thank you, General Selva, for coming, given your heavy responsibilities. We really appreciate this access.

And I also want to introduce, because people at the table may be wondering, we have two guests here, who are not journalists, sitting at the table from Carnegie Corporation of New York, Nicholas and Noelle Pourrat. And the Carnegie Corporation has been a longtime supporter, absolutely crucial supporter of the Defense Writers Group and of the Project for Media and National Security now at George Washington University, so very grateful for their support over the years and I hope they find this interesting to see you in an exchange like this between the folks who – the gentleman – one of the gentlemen who runs the defense of the nation and the media that cover it.

With that, over to you.

MODERATOR: OK, so just a quick reminder on the ground rules. We have 60 minutes. We're going to making a hard break at 9:00. Because of the size of the group today, we are going to have to very rigorously enforce the one-question and one-quick-follow-up rule. If we start running out of time towards the end, we'll have to forgo the follow ups as well. But ultimately, this is General Selva's show.

Sir, thank you for making the time to come on down and sit with us for the 60 minutes.

Yes, we are on the record. And let me begin by asking you to elaborate just a little bit more on the budget situation. We're now four months, almost five into the fiscal year without a budget for '18. How is this affecting the department both operationally and long-range planning-wise?

GEN. SELVA: Right. So those are actually two parallel paths that we have to travel at the same time. So when we're under a continuing resolution, unless we have a thing called an anomaly from the Congress, we cannot start any new programs or new spending streams, which means, basically, training continues reasonably unabated as long as there's money, but you can't refresh any of the equipment that used up in training and you can't buy new. So that's the sort of parallel paths we're on, which makes long-term planning exceedingly difficult.

Any program, whether it's a purchase or a training program, that was supposed to start in '18 and has no predecessor program in previous years, unless it was explicitly authorized by the Congress is not authorized to start. So that puts us in a position where

we don't actually know the impact that the CR will have on '19 until a budget is actually passed.

There's also a presumption when you engage in a CR that when you finally pass the budget you will actually not have missed any real opportunities for investment, which is ludicrous. So we're going to wait now four months, likely longer, into the fiscal year before we have a budget and there's a presumption that we can cram the acquisition programs into the remainder of the year. Which means the industries that produce the things that we buy and consume are kind of in a three-point stance, ready to go, they're waiting for the starter's gun to sound so they can get to work. There is a point in the near future where they will not be able to finish the race.

The question is, will any of them step to the side and sit down on the bench and actually not be ready at all? Because any investment that they do for a program that we would start is risk. And so this cycle – by the way, which is not new, this is the 10th year in a row that we have operated under a CR, some of them as long as six months – so we're getting kind of used to it, the problem is industry is not going to continue to adapt to it. And I don't blame them.

So it's those two parallel paths that we have to navigate. There is a real readiness impact of this, because if you get too far into the year you cannot recover. And our experience tells us four to six months is that point in the year where you're past the point of no return, so units will not be able to recover the training that they have lost.

The most damaging thing that can happen is what happened last weekend where a disagreement becomes so severe that the government shuts down. So a week ago, I'm told – I haven't validated the number, one of you might want to do this – that roughly a hundred thousand Guardsman and Reservists were scheduled to drill over the weekend. Because the government had to shut down, they were all sent home. There isn't another weekend in January for them to recover their lost drill time. January is one of those weird months that has a holiday at the beginning and a holiday in the middle, which means you can actually predict that most Reserve and Guard units will put their drill weekend in the last available weekend in January. And we lost that weekend to a government shutdown.

So it's that kind of stuff that's not recoverable. So two parallel paths, we're navigating it, it's not without consequence.

Q: Thanks for being here.

GEN. SELVA: Good morning.

Q: It sounds like you have a cold, so thank you especially for bringing it and being here today.

GEN. SELVA: I've just been using my voice a lot, so.

Q: Got it. You were talking about the readiness of the industrial base and the readiness of equipment and things like that, but I wanted to talk about actual readiness of personnel and their fitness. We've seen some efforts recently by Secretary Mattis to address deployability and the percent of the forces that are deployable, whether it's for fitness standards or other reasons. Are there – are there trends you're seeing that are concerning you? And what's the department doing about it?

GEN. SELVA: So we have begun a process of focusing on individual readiness for deployability. And it's interesting the things you find when you shine a bright light on an issue. So across the services, the principal reason people are not available to deploy is administrative, they've missed an appointment, they've – my favorite one is they are not Class 1 or Class 2 dental certified. That means they haven't had a dental exam and a dental cleaning in a year. If you look at the number of installations where we no longer have dental clinics, where we depend on sending people out to contract dentists and that sort of thing for dental care, or we wait until the unit is scheduled to deploy, it's actually predictable that a percentage of the force is not going to be available to deploy for that reason. There are a host of those.

I get an email about every six months that I need another inoculation to remain deployable. I'm actually pretty disciplined about marching upstairs to the flight surgeon's clinic and getting the inoculation. There are roughly 14, don't hold me to that number, but there are roughly 14 inoculations that I have to have personally to be available to deploy, not that I would get a no-notice deployment order, but as a matter of setting the example for the rest of the force I actually go get my shots when I need to, I do my dental exam when I need to, I get my flight physical once a year, those sort of rudimentary things.

What you find when you start digging is those just basic blocking and tackling is work that everybody has to do. And it's a leadership challenge down to the lowest level. So it's the senior NCOs and the midgrade NCOs who are paying attention to the soldiers, sailors, airmen and Marines around them.

The second issue is actual physical fitness. And I don't have the numbers, but a marginally increasing number of individuals across the services are not able to pass their basic physical fitness test to serve in their respective services. And each of the services has a slightly different test. One of the standards in all of those tests is your weight and your body mass, and there is a – there is a detectable and increasing trend towards people not being able to meet that standard. That means, technically, without a waiver, they're not available to deploy. So we need to – we need to focus on those things.

My opinion, sitting where I am as the vice chairman, is this starts as a unit-level leadership challenge, but it's – but it – but the institution is a contributor. So the extent to which we don't actually make the services and treatments that are required available – the dental example is one – then we can't hold the local leader responsible for anything other than highlighting the problem and then we have to fix it.

But when we're talking basic standards, physical fitness, physical readiness, weight management, those are local-leader standards. It's up to the local leaders to say the standard is published and exists and we're going to enforce it. And they will get the backup of senior leaders because this is really important.

Q: Great. Good morning, General.

GEN. SELVA: Morning, John.

Q: A half-dozen years or so when people like us asked people at your level what are the technologies that are going to shape the military for the '20s and '30s, we hear lasers, automation and hypersonics. But now we're starting to hear from former leaders and some current leaders we've lost the edge on hypersonics, the Chinese are ahead, the Russians and Iranians and Indians catching up fast. So what happened there?

And you are the requirements guy, when do you need to have some kind of hypersonics capability, either a missile or a manned thing, in order to stay competitive?

GEN. SELVA: Those are two good questions. I'm not sure I have a good answer for the latter. I'm not going to gaffe it off, but I'll tell you why that's a problem.

Q: OK.

GEN. SELVA: We have – we have lost our technical advantage in hypersonics, we

haven't lost the hypersonics fight. And there's a – there's a – there's a key relationship there. The Russians and the Chinese moved out pretty smartly on hypersonics. China has made it a national program, so China's willing to spend tens to up to hundreds of billions to solve the problems of hypersonic flight, hypersonic target designation and then, ultimately, engagement.

We've taken a different approach, which is to come up with a family of hypersonic systems that work without necessarily trying to close all the technology pieces at the front end. So the two things that are – well, they're the two that I find most compelling with hypersonics – are the fact that you have incredible amounts of excess energy in the weapon, which means you can do some really stunning maneuvers and still retain hypersonic flight. That implies that you can actually keep the vehicle under control and that you don't over-G it when you do the maneuver. So those are two really big parameters in hypersonics that matter.

And so we're working hard on, how can you make the vehicle survivable and maneuverable, which is a flight-control problem? The closing the kill chain is something that'll happen later in the development of the technology. It's either going to go after fixed targets, which is a relatively easy kill chain to close. If it's going after moving targets, now you have to continue to maneuver it until it accomplishes an intercept and that is a really tough kill chain problem with a lot of technological pieces between wanting to do that and being able to do it. So that's the second piece we're trying to close.

That's why a manned hypersonic capability out in the future is still something that is a question of, can you scale hypersonics, small, highly maneuverable, high G, sturdy machines as something you'd put a human in? And I'm – I'm just not sure that we – that one would invest the money to make that transition. When you can make weapons hypersonic, it's probably not a requirement to make platforms hypersonic. That's the sort of trade space we're in.

Q: Is there anybody actually in charge at the Pentagon or in DOD or coordinating all the research? Or is every service unto itself?

GEN. SELVA: Three principal places, two I will reveal, one I won't. So DARPA is working on extremely advanced hypersonics research. And the Navy has a hypersonics program.

Q: No Air Force?

GEN. SELVA: The third one I won't reveal. (Laughter.)

Q: OK, thanks very much.

Q: Good morning, General.

GEN. SELVA: Good morning.

Q: Thank you so much for doing this. The new NDS is out and it says that an era of a new strategic competition between the great powers is back. So I wanted to know what your thoughts are on how is this issue going to evolve over the next 15, 20 years, let's say. Do you think the world is sliding fast towards another global war or something like that? Or I don't know.

And tangential to that, is General Dunford planning to meet anytime soon his Russian counterpart or maybe you are planning to see your Russian counterpart? Can you speak about (confidence-building )?

GEN. SELVA: I don't know of any scheduled meetings, so I can lay that one aside easy. That doesn't mean there wouldn't be one. The ability of General Dunford and General Gerasimov to speak openly with one another about potential areas of friction and conflict and potential areas where we can deconflict and work together in places where we have mutual interests is actually quite useful. So the idea that senior military officers won't interact with one another is actually antithetical to what history tells us. Which is, even during the Cold War, we had senior Russian or then senior Soviet and senior NATO officers that had relatively open lines of communication to avoid misunderstanding and miscalculation. So I don't know of a meeting on the schedule, but that doesn't mean there isn't one. It just means I don't know about it.

To the National Defense Strategy and National Security Strategy that talk about the reemergence of great-power competitions, I think that is a clear observation of what we should have realized 10 years ago. So we have spent the last 10 years observing a world where China is ascendant and Russia is accumulating wealth and influence across the Asian and European continent. And the United States is engaged with both.

If that were a completely sort of mutual relationship where there were no competitions and no friction points, then one could say that's just normal commerce. But there are friction points between all three. There have been and there remain friction points

between Russia, China and the United States. So to say it's not a great-power competition, that we're not all vying for a similar place in the world's economy, in the world's political stage and even in the national security stage is actually ignoring what's real.

So I'm convinced what the National Defense Strategy and the National Security Strategy have done is explain to us what should have been obvious. And so our relationship has to be defined by the way we are conducting ourselves, not the way we wish we would conduct ourselves.

And so I would assert that China is competing for influence globally, Russia is competing for influence globally and the United States is competing for influence globally. If that doesn't define a great-power competition, I don't know what does. That doesn't presume that we'll have a global war. It doesn't assume that the competition ends in violence. But if you don't understand at the front end that strength actually matters in competitions, whether it's economic strength or military strength or political strength, then you're ignoring history.

And so that's why we were so strident about calling that out in the strategy to say this is about competition and it's about a long-term competition, not a short-term competition, because that causes you to invest your intellectual energy and your fiscal resources in a different way.

Q: I want to change to North Korea a second and their missile capability. Back in August, you said it's clear that North Korea has the capability to build a missile that can range the distance to the United States, but North Korea has yet to demonstrate it has the reckless technology and capability to actually target and strike the United States with a nuclear weapon. Fast forward to January: Do you still – is that still your assessment or have they made strides to close that technological gap?

GEN. SELVA: They have made some strides, but still true that they haven't demonstrated all of the components of an intercontinental ballistic missile system. So I'm cautious not to repeat myself, but there's generally four components: You have to have the ability to do range, so you have to be able to reach the United States. You have to have the ability to maneuver the actual rocket, so you have to be able to have the stability and control mechanism to cause it to do the roll maneuver that actually points it in the direction of the United States. You have to have a terminal guidance system that allows you to target and fuse the weapon. And the weapon must be contained – and the targeting system must be contained inside of a survivable reentry vehicle that can

withstand the stress and shock of both the launch, the transit and the reentry because all involve heat and vibration. So those are the four components. Those are the kind of things that they have to be able to do.

What he has not demonstrated yet are the fusing and targeting technologies and the survivable reentry vehicle. It's possible he has them and so we have to place the bet that he might have them, but he hasn't demonstrated them.

Q: Would you know if they were – do you have the capability to know if those are demonstrated? Can they be demonstrated underground and not something that SBIRS or any of your sensors would see?

GEN. SELVA: To my knowledge, a reentry vehicle cannot be tested underground to the stresses and vibration that it would experience in transit. So we would – I believe we would be able to observe the test. Primarily, he hasn't shot at the distance required to successfully engage in that kind of a test, so we haven't observed him actually do the kinds of things that we believe would be required. And I'll caveat that with nothing we've seen in his testing program to this point is the way we would do it, so it is possible, although I think unlikely, that he's found a way to do the test without us knowing. But I – but I can't imagine, I can't envision what that test would look like where he would be convinced he has those components at a reliable-enough level of performance to declare that he's ready. Now, that hasn't stopped him from declaring that he's ready.

Q: OK. A follow up quick, does this give the United States – this is room for a freeze, a reason to push for a freeze in testing since there is a gap in having a full capability?

GEN. SELVA: It could, but I'm not in charge of the diplomatic efforts.

Q: I understand that.

GEN. SELVA: So it's an opening to have that conversations.

Q: Thank you.

Q: Hey, General, thank you for doing this.

GEN. SELVA: Good morning.

Q: I just had a quick question about one of the consequences of the success in the battle

against the Islamic State in Iraq and Syria. And that is the fighters, particularly the foreign fighters who weren't killed, and that is those who either escaped the region and are trying to filter back and to go to ground in Syria and Iraq, filter into Turkey, but also apparently several hundred that are now being kept in makeshift detention camps by the Kurds, which could be – some people fear could be a breeding ground for future terrorists. How concerned are you about both of these aspects, particularly the impact that foreign terrorist fighters could have on continuing the fight, even though the caliphate has been defeated?

GEN. SELVA: Yeah, so two very perceptive questions. On the – I'll go backwards if you don't mind. On the detainees that are in the hands of our partners – and there are several partners in the region – they now number in the hundreds. I'm going to avoid specific numbers, but they do number in the hundreds. We have engaged in a concerted effort to contact their countries of origin to determine whether or not their countries of origin are willing to take them back to prosecute them for either crimes they committed in the countries or for supporting the effort to have people inside those countries perpetrate attacks on citizens, not unlike what we saw in Paris and across Europe, in Belgium and others over the course of the last two years.

So if the home governments are willing to take these individuals back for the purposes of prosecution, then that is a way to thin the herd a little bit and prevent the longer-term sort of consolidation of foreign fighters in places for long periods of time. And so that's the effort that we're undergoing right now. It is a concern, it's a process that we're working our way through.

To your – to your earlier question about the number of foreign fighters that have departed and are unaccounted for, it's our belief that they are attempting to get back to their home countries of origin. What they're going to do when they get back is hard to predict. But they have been unleashed in an environment where there were no rules on the killing of people. So when we – when we put soldiers, sailors, airmen and Marines into an environment where they're going to take human life, there are strict rules of engagement, there are ethics that govern the taking of human life. We're very disciplined about the return of those individuals back to their homes, to their – to their locations from which they went to do that work.

And we have a support structure that takes care of them psychologically, spiritually, physically, makes sure they're ready to reintegrate. None of that exists in Syria and Iraq. None of that exists in a terrorist organization that says any human life may be taken if you consider it to be less valuable than your own, and any amount of violence can be

inflicted on that person because they are less than you are. And there's this diminishing of the value of life and there's this diminishing in the value of humanity that happens in that environment.

So those foreign fighters are very dangerous for two reasons: They subscribe to an ideology that says if you don't sign up to who I am, you are not as valuable as I am. And they also sign up to a philosophy that says because you have no value, I may do with you as I please. I can take your life, I can rape you, I can subjugate you, I can do anything I want. And there's no deprogramming involved in their return home, so that is a very, very compelling problem.

And if you look at the kinds of violence that these individuals have inflicted on fellow humans, it's unspeakable. So the thought that these foreign fighters who have participated in this fight now for some over two years will quietly leave Syria and return to their jobs at shopkeepers in Paris and Brussels and Copenhagen is ludicrous, and so that's a very compelling problem.

So the ability to which we can identify who they are and make that information available to the law enforcement agencies and national security processes in their home countries is the best we can do if we know they're leaving the battlefield.

So the catalog of who the foreign fighters are is not terribly precise. But the extent to which we can share it with their countries of origin, that at least gives a little bit of leverage to try and sort this out as a law enforcement problem when they try to come home. Most of them traveled under aliases and many of them traveled under dual-citizenship passports, so there may be no record in their home country that they actually went and participated in the fight.

Q: Just to follow up quickly on that, to what extent do you believe that the remaining ISIS leadership still has an external operations capability, command-and-control capability? Whereas, they basically embedded that in these fighters, and they've kind of sent them out into the world, and they may wake up somewhere down the line, but they don't really have any more control over what these guys do.

GEN. SELVA: That's a great question. I don't know that they have command and control in the sense you and I might use those words. But their ability to communicate to their followers, that being sort of the core of ISIS as it remains in southeastern Syria, their ability to communicate to their - to their followers worldwide is still fairly robust. The internet actually makes that possible, social media makes that possible. A lot of the

encrypted technologies that exist inside of those infrastructures make that possible. The extent to which we can find and follow them in that infrastructure, we make every effort to do that. And that – when I say “we,” I mean the entire coalition collectively. But there still appears to be an ability for ISIS core to communicate outside of the constrained regions in Syria, where they have a little bit of freedom of maneuver left.

The tricky part though – and it will be worth one of you spending some time on this – the latency of stuff on the internet is measured in years, not months or minutes. So the extent to which all of this radicalizing ideology exists on the internet, and people are willing to reinstall it and move it across that infrastructure through whatever social media platform or available internet platform they can get their hands on, then the ideology of ISIS will persist for some time after the group itself is extinguished.

And to your point, if that legacy means people will be doing things in ISIS’s name, then ISIS isn’t defeated until we actually stop that activity. And that could be measured in years after the active campaign to squash their control of territory in Syria and Iraq is over. And I think that’s something we ought – as a free and open set of societies – ought to be really thinking about. How do we get at the counter-radicalization piece that will still have to go on once the physical caliphate itself is completely extinguished? Because we’re going to go about the process of rooting all this stuff out, off of the internet, and putting moderate voices out there that actually counter this ideology.

And even more important, we’re going to have to bring opportunity to the population that was the source of the foreign fighters in the first place. So those people who believe they’re disenfranchised all around the world, who are easy prey for that legacy of stuff that stays out there on the internet, we have to address that as a community of nations. So that’s, fortunately, not my job, right? I kill people and break things. I don’t build schools and teach children the right way to treat one another. But somebody in government needs to be paying attention to that part. I know we have people doing it.

The question is, does every partner nation in the coalition have a similar effort to try to wring out of the internet and the education system and our employment practices the kinds of things that were the breeding ground for foreign fighters in the first place? Because a kid from London doesn’t just get up in the morning and say: You know what? I think I’ll go to Syria and kill people for a couple of years. Something happens that causes that person to be predisposed to that activity. We have to figure out what that something is and address it.

And if we fail to address it, my concern is in five or 10 years we’ll have ISIS 2.0 or

al-Qaida 3.0 and the process will start again somewhere else in the world. And if I could predict where that somewhere else was, I could try to unplug all of the influences that would cause that problem to present itself. But I'm not smart enough to figure out where that place is. If you know, please tell me and we'll get to work on it.

Q: Thank you.

Q: Yes, sir.

GEN. SELVA: Good morning.

Q: A long time ago there was something called the Third Offset. Nobody likes to talk about it anymore, but if you look at the stuff that was laid out in the National Defense Strategy and even the National Security Strategy, there's a lot of similar ideas there that was talked about last year, two years ago. In your mind, since you were kind of core in developing the whole process, is the Third Offset still alive – the Third Offset concept? I mean, are those ideas still alive? Did any of it change under this new administration?

GEN. SELVA: Yeah. It's a good question. So you're way inside of our processes in the building if you're still using the word Third Offset and you didn't say Third Offset strategy. So the Third Offset's – the idea is still there. The – when Secretary Mattis came in, as you know, he's a strategist and philosopher all by himself. He thinks deeply about how we use particular words. And the word "strategy" for him has great value. And so his view was we were calling it the Third Offset strategy – you know that, most of you know that. He said, it's not a strategy. It's a process.

It's a process of potentially redesigning the military to take advantage of emerging technologies that will give us a competitive advantage on the battlefield for some time to come. It's not unlike the first two offsets that happened in our recent history – read, the period of time I've been alive. So that's a long time for most of you. It's almost 60 years. We've been through two major changes in the design – the fundamental design of our military structures on the battlefield. There is still the potential for a new and different way to position and organize our forces in the battlespace to achieve military advantage.

And so we are still calling that a Third Offset. What we're not calling it is a strategy. How we get to that Third Offset will be the strategy. And so you will see in most of the documents that you read over the next several months that we publish the references to the components of the Third Offset, without necessarily calling it out by the specific name: Third Offset strategy. And we certainly won't refer to it as a strategy. So in that

sense, we've diminished the – not the value of the words “Third Offset,” but the prominence of the words “Third Offset” in our – in our rhetoric.

We're still fast at work on artificial intelligence, man-machine teaming, trying to figure out how to make sense of the things – the mountains of data that are around us, and get at whether or not that affects our battlefield performance. And if it does, it should be able to let us see faster, sense faster, decide faster, and act faster. If you can't do all those things, you're not actually taking advantage of the technology. You're just admiring it.

Q: So, given what you said earlier about the budget then, that you're gambling with, you know, 2019. You know, Deputy Shanahan has said 2019 is going to be kind of a building block; 2020 is the masterpiece. What should we expect –

GEN. SELVA: Interesting choice of words. I'm not sure he would describe it that way, but.

Q: Those are his words, sir.

GEN. SELVA: Yeah? OK.

Q: In your mind, then, what should we expect to see in these budgets in terms of these technologies? Should we see little investments or are we going to see real, hardcore kind of pushing money towards the problems?

GEN. SELVA: You should see increasing investment in AI and man-machine teaming. But we haven't cracked the nut on man-machine teaming yet. I don't believe anybody has. I mean, the closest we've gotten is the extremely high level of information we push to aviators in cockpits. Some would argue that's man-machine teaming. I'll describe it differently. You take that same person that's working in that cockpit with all the information streaming to them, and you augment it by a factor of 10 by teaming that information that can push that amount of information to an aviator who's making target engagement decisions with off-board sensors that push 10 times more data to that same person, and give them the weapons that will allow them to prosecute those targets.

Now you're talking about more than just what fighter pilots call a beyond visual range shot with high confidence. You're talking about actually being able to prosecute the enemy at hundreds of kilometers away from your airplane with very high confidence that you're actually engaging the target you intend to engage – because we don't engage

targets unless we have high confidence. And wouldn't it be cool if you could shoot somebody in the face at 200 kilometers? They don't even know you're there. That's the kind of man-machine teaming we really want to get after. So you'll see some modest investments in that space. But we haven't cracked that nut yet, because if you look inside what we're pushing to aviators, just as a general rule, it's a hell of a lot of information to absorb.

So man-machine teaming isn't just about could you push the information to the human. It's can you actually make the information make sense to the human and allow the human to make decisions at greater speed. That last part's the hard part. The human has to decide faster. So parsing the data and how you present it actually matters. And that's a technology piece that really is going to require some experimentation. You're going to have to have very high confidence that the technology is actually sorting and parsing the right data.

Q: Thank you, General. You mentioned the Nuclear Posture Review. The commander of Strategic Command, General Hyten, he's been talking about the concerns that he has about other countries closing in on the United States, about vulnerabilities. And he said – (inaudible) – he said DOD is not really moving fast enough to address or to stay ahead of the threats. I was just curious if you agree with that assessment. And what kinds of things can be done to move faster in the context of what he says or stay ahead of these things?

GEN. SELVA: Yes. I do agree with him. So I would suggest there are three key components to trying to stay up with the kind of competition he's talking about, which is a threat to strategic systems. One is general cybersecurity. So the idea that others would try to steal our secrets shouldn't be a surprise, because if you read the BBC's piece by Mike Pompeo this morning we spend an inordinate amount of energy trying to steal other people's secrets, right? The amount – or the extent to which they're successful, we ought to be really careful. And cyber is a place where espionage is a – is a thriving enterprise.

If I can get you to expose your internet systems to my snooping, my spying, my stealing, then you're vulnerable. And because we're an open society, we are incredibly vulnerable. We don't set firewalls up around the United States and say: Nobody can come in unless they comply with our internet protocols. You can't store data on U.S. – U.S. citizens can store data outside the United States. Most of you don't know where your cloud account is, I'd be willing to bet money on it. You ever ask your cloud service provider, whoever it is, where the servers are that store your data? No, because you

don't care. Because it's a free and open society and nobody would dare try to break in and snoop. Guess what? They're out there and they're out there in legions.

Russian intelligence, Chinese intelligence, other intelligence services are trying to steal our secrets. So given that our nuclear secrets are some of our most valuable secrets, you'd be like any good bank robber. You're going to go where the money is, right? So you're going to go where the secrets are. Where do you know there are secrets? In the nuclear enterprise. And so the nuclear enterprise is assailed every day. That's one.

The second is, over the course of the last several years Russia and China have been building new types and kinds of nuclear weapons, both delivery systems and actual warheads. We have not. Which means the capability of the Russian and Chinese nuclear arsenals is actually getting better against ours, which is remaining relatively static. Even with our modernization effort, we only make modest improvements in the delivery systems and the actual survivability of the – of the enterprise.

Now, that will improve because we'll have new equipment, but we're not building new weapons. We're not building new warheads. We're not building new delivery systems, save one, the new cruise missile. That's a – that's an interesting way to describe the number-one priority of the department, which is nuclear deterrence.

And then the last place where I think John Hyten would make – and I don't want to speak for him, because he's perfectly capable of speaking for himself – is the fact of Russian and Chinese development in counter-space capabilities. So the – space, by the way, is a really open architecture. If you have enough hobbyists with telescopes, you can detect all of the satellites in low-Earth orbit. If you know where all of those hobbyists are, and you can – you can precisely map their GPS coordinates, and you can map the time that they actually saw the object you're interested in, you can develop a reasonable detection and targeting system without having elegant radar and telescopes yourself.

Russia and China possess both elegant radar systems and elegant space detection systems, and they're able to subscribe to all of those capabilities that exist simply because they exist. And if you don't believe me, get a modern iPad, put the app Space Walk on it, and go out in your backyard the next time the International Space Station flies over, and hold your iPad up to the International Space Station and see how close the track is. It's nearly perfect. By the way, Space Walk will actually catalogue all of the known satellites in low-Earth orbit, because you can watch them fly by with the naked eye, sometime binoculars. They look like stars, only they're moving pretty fast.

And so that basic existence of that data gives potential competitors knowledge of the space enterprise, that all they have to do then is add their own more high-fidelity sensors to it, and then get a really good picture of what's up there. And the first step in targeting what's up there is actually knowing what's up there. And so we've yielded an awful lot of ground to the Russians and the Chinese in space security.

So I think those are the three components that General Hyten would talk about if he were sitting right here.

Q: And the second part of the question, what can DOD do to stay ahead?

GEN. SELVA: Cybersecurity is cybersecurity. So it starts with cyber hygiene. It goes right up to the development of your architectures and your systems and how you protect the information that's inside of them. The NPR lays out a way ahead for nuclear modernization. I think most of you know the details of that. It's a new bomber, it's a new missile, it's a new submarine. It's new missiles on the bomber. It may be new missiles on the submarine. That's sort of the NPR in a nutshell. And then on the space piece we just have to be very disciplined about what we say and do in space.

So there are things we should never talk about in space. And I won't talk about them. And then there are the things we ought to be – we ought to be quite blunt about in space. There are as many commercial satellites, maybe more than there are military satellites. I actually ask people this question about space: What are you going to do when the enemy can know everything about you, simply because they can exploit big data? Think about that for a minute.

So you saw the article yesterday on, I think the company's name is Strava, that does the big data analysis of all the GPS gadgets we carry when we go out and do physical fitness activity. And their motive wasn't evil. They really didn't have an evil motive. What Strava was trying to do was inform people who are athletically inclined on the repetitiveness and utility of their exercise. It just so happened when they did all that big data work they were tracking the very, very accurate GPS location, and the metadata that exists on that device – you'll notice, I have a mechanical watch – the metadata that exists on that device, because that gives you a lot of information about your own activity and your own physical fitness.

It turns out, if you can just map the global universe of all of that data, some really interesting things come out. So you probably saw the map of Diego Garcia. Diego Garcia is shaped like your right foot. Downtown is here, and the airfield is here, and the

rest of the island is uninhabited. And what you saw from the running patterns is exactly what I experienced when I was deployed there five times between 1985 and 1999. Those of you who are physically active will run the six miles from downtown to the airfield. Some of you will run around downtown. And what you get is a very accurate map of the western edge of Diego Garcia because you can't run in the ocean, but you can run along the beach. And you can run in the jungle along the beach, because I know there's a trail there because I've run it a thousand times. And if I had had a Fitbit, I would have contributed to the map of Diego Garcia.

Think about the attack on the Marines in Kandahar, I think it was about six years ago. A well-intentioned Marine took a picture on the flight line, posted it on Facebook. Somebody was able to take that image, pull off the metadata, rectify it to a Google Earth map of Kandahar and target a mortar on where the airplanes were parked. It's not rocket science. That's the kind of – we have to think that way about space. What do we not want to say? What do we not want to reveal? And what might accidentally reveal it? Because with big data, you have to be thinking about what you're saying, as much as what you're not saying. And things you think are routine are no longer routine, because they now expose patterns that you didn't know existed before. That's the kind of stuff we got to get in the middle of. And that's going to be the hard part.

Sorry, that was a really long answer to your question.

GEN. SELVA: Hey, Justin.

Q: Hey, sir. How you doing?

GEN. SELVA: Good.

Q: I just wanted to ask about the new National Defense Strategy. So it stakes our return to great power competition. And Defense Secretary Mattis obviously has said we're prioritizing capability over capacity. So, how does that flow out into, you know, capability requirements and the services – or the services' modernization programs moving forward?

GEN. SELVA: That's a great question. So, right now most of the service modernization programs are focused on our two largest competitors – Russia and China – in large part because the third country on the list, North Korea, derives almost all of its military capability from buying hardware from either Russia or China. There's a component of their program, which is their nuclear program, which is cobbled together from a variety

of other places. But it's not – it's not generically Russian or Chinese. But part of the thinking is if you go after the Russia and China capability challenges, you're actually going to scoop up North Korea along the way.

Iran is different, because the geography in Iran is so compellingly different that we will probably develop some capabilities – I can't tell you what they are at this instant – for Iran that are – that are decidedly different than for Russia or China. The Russia problem set is largely an Eastern Europe problem set, but not exclusively so. And you'll not in the National Defense Strategy, if you read it carefully, we describe them as global problem sets. So in the past we used to think of Russia as a European problem. In fact, for a long time the Soviet Union was the chairman's problem. It was not relegated to any combatant commander for planning. The Joint Staff did all the planning for any Soviet Union engagement. But the execution of that planning was then delegated to U.S. European Command.

Since 1991, we have treated Russia as a European problem. If I were from Mongolia, I'd be only mildly insulted. By the way, if I were Chinese, Japanese or Korean I'd say, what, are you freaking nuts, right? Russia is a global problem. When you think about how you would delegate the Russia problem set to combatant commanders, it doesn't take long to figure out it's a global problem set, because it would include European Command, Pacific Command, Central Command. Those are all the commands that have borders on Russia. Special Operations Command, Transportation Command, Cyber and STRAT, and I've probably left one or two out. So you get seven of the combatant commands, all of whom have an interest in what's happening in any potential competition or conflict with Russia. So how can you describe that as a uniquely Russian problem set and assign it to one combatant commander?

So the distinct difference you're going to see in the – in the NDS and the National Military Strategy that preceded it and will now be revised as a consequence of the explicit statement of the National Defense Strategy, is organizing around how we're going to engage in those great power competitions using all the tools of government, but also using all the tools of the Defense Department, which means we're not going to relegate those competitions to single combatant commanders. A global campaign plan will be built around each of them. And then a combatant commander will become the coordinating authority for management of that plan. And so we'll have – we'll have those two major plans, which will be in tension with one another. And that will help define the capabilities and capacities that will need to be built inside of the forces.

Here's why they will be in competition with one another. It's not – they're not the same.

So any fight with China, if it were to come to blows, will be a largely maritime and air fight. I'll be bold and make that assertion. It doesn't mean the Army and the Marine Corps don't have a place, but when you think about how the – how a potential conflict with China would evolve, it very likely involves a substantial contribution of Naval and Air Forces. And the Army and the Marine Corps would be supporting elements in that fight. If you flip that to the Russia problem set, the Russia global problem set is largely an air and ground fight, supported by elements of our maritime component, because you can't get to Russia, you can't get to Europe in any large measure, without transiting the North Atlantic. Which means, there's going to be a maritime fight to get things to the continent. But the right itself, as it evolves, will likely be an air and ground fight.

That actually defines two separate but overlapping sets of capabilities and capacities that you need. So in the past we would have said, but we're not a two-fight department, right? What we're trying to say in this national defense strategy is there are two unique competitions that we have to deal with. And the elements are overlapping but not the same. And that means you have to address – be able to address both of them inside of a capability and capacity model that's affordable with our – with our budgets. And if – and, by the way, if it's not affordable then we will express the risk to the secretary, to the president, and to the American people. And what we have done for the better part of the last two decades is bury the risk, because we said we'll just adjust.

We're to the point where we're going to design a force where you can't say: We'll just adjust, or that's a lesser included case. We will actually have to define the capabilities and capacities inside the force that have been designed to meet that requirement. And if we can't buy them, having designed and attempted to develop them, then we have to go to the secretary and the president and say: we are assuming risk on behalf of the American people because we can't do this set of tasks. We can either appropriate the funds to get those tasks done or we can articulate the risk. And that's the process we're going through right now. I can't sit here this instant and tell you where those risks are going to accrue, because we're only on the opening phases of actually redesigning the force around those two capability and capacity models. Stay in touch.

Q: Well, when do you expect that National Military Strategy will be revised?

GEN. SELVA: It took us nearly a year to write the first one. So I'd be optimistic if I said less than six months. It's going to take a while.

Q: Can you –

Q: Could I interject just for a second? Is there a shorthand for this strategy? Like, we used to have two major theater wars and terrorism, you know, the 1+1 and –

GEN. SELVA: Then it was 2+2. I don't know if we – I know – I'd have to look. I don't know that we've actually done the shorthand for this one.

Q: OK. Thank you.

Q: So, how good are – how good is the intelligence community's ability to look at and know about North Korean missiles? Do you know where they all are? When one is launched – as we've been watching for a long time – if the U.S. wanted to destroy them before they were launched, what percentage could be destroyed before they're launched?

GEN. SELVA: Can't give you the answer to the second one, because we don't do that.

Q: Don't do what? We don't do –

GEN. SELVA: No, no, we don't do preemption, right? So our method of warfare, if they launch one then game on. But preemption is not something we do as a matter of course.

Q: So you're ruling out preemptive strikes against North Korea?

GEN. SELVA: I'm not ruling them out. I'm telling you that's not what we do as a matter of course.

Q: But the first question is when one –

GEN. SELVA: That's a different question. Yeah, let me get to your first question.

Q: When one is – when one is launched, you know, have we been watching for a long time? Do we know it's about to be launched?

GEN. SELVA: I got to be really careful with classification, because the methods that we use to detect launches of satellites – or, launches of missiles are pretty sophisticated and they're also perishable. So I'm not going to tell you how we actually do it. I'll tell you in general terms how we do it. We have a – we have a constellation of satellites that detect the IR signature of a launch. And they can very quickly tell us where the launch is coming from, and characterize what kind of rocket it is, based on the energy of the launch. So the IR energy of the launch. And then we have a series of ground-based

radars that allow us to track the launch and determine whether or not it's a threat to the United States. And if it's a threat to the United States, those same radars let us engage that target. And we have our ground-based interceptors in California and Alaska which, for the North Korean threat are actually quite useful for the intercept.

So that's the detection and characterization piece. We do surveil North Korea, as we do other countries, from space on a fairly regular basis. They are very good at predicting when those satellites will come across the top of North Korea, because they watch. So the extent to which we catch them in the open, we actually catalogue their movements. But it's very hard to catch them in the open. They have a very, very capable camouflage, concealment and deception set of protocols. They are disciplined about their execution. And all of the facilities they build for their ballistic missiles are actually designed to hide their existence. So even if they build a building, they actually try to camouflage it.

So we are – we are as diligent as we can possibly be about watching and cataloguing their ballistic missile capability. But it is very unlikely that in a tactical situation we would get any of the indications of warning that would precede a launch other than if we got lucky and saw the movement of the launch mechanism to the launch platform.

The reason I pick mechanism instead of vehicle or – because they're not all vehicles anymore. He has multiple ways of moving missiles to launch locations. So we used to look for movement of a transporter erector launcher. He now has a vehicle called a MEL, a missile erector. It's not actually a launcher. It's a vehicle. And they drive out to a pre-surveyed launch pad, a concrete circle, and they erect the missile. And they drive away and the missile launches.

That launch cycle is very different than bringing out a TEL, raising the missile, fueling the missile, going through all the processes of making the missile ready. So we may have gone from tens of minutes to up to an hour to a dozen or minutes or so, the indications of warning, if we're lucky enough to see the missile.

And then, again, to your second question, is if you're watching and you see all the missiles deploy and he launches the first one, then he has started the fight, and all the other ones are legitimate targets. The question is – and this is a contextual question. This is why I won't rule in or rule out preemption, because it's contextual. What has the run-up to that looked like? If it's a bolt out of the blue, it's a bolt out of the blue. Does that catch us flat-footed or not, politically and militarily?

If it's not a bolt out of the blue, if it's been building tension over time and we're watching

provocations and other activities, then we will likely have forces in place to respond to a launch that are different than our day-to-day posture. And I won't get into any of those details. It's just important that we all realize that we're just not sitting back watching this. So whenever there's a provocation cycle and the tension between North Korea and South Korea raises and there's rhetoric about attacking the United States or our fielded forces or our interests in the region, we change our posture.

Q: So under the best of circumstances, under a scenario that's most favorable to the U.S., who's been watching it a long time and conflict's been brewing, what degree of confidence do you have that you could destroy most or all of his missiles?

GEN. SELVA: I have confidence we can get at most of his infrastructure. I can't give you a characterization of the confidence on the number or percentage of missiles we would get. But remember, missile infrastructure is not just the missiles. So if you're the poor sergeant that has to go out and launch the missile and I blow up your barracks, you're not available to go do your job.

So the infrastructure is more than the missile itself. It's the fueling infrastructure. It's the operational infrastructure. It's the command-and-control headquarters. It's the people that actually operate the missiles. And once he has described hostile intent and actually demonstrated hostile intent, then all of those become legitimate, proportional, discriminate military targets that can be hit.

And so this idea that you have to see all the missiles to actually be successful may or may not be true. I'm not suggesting that it is true. I'm also not suggesting that it's entirely untrue. But when you go after all of the infrastructure, that is a deliberate campaign which takes a little bit of time to literally strip the infrastructure bare so, even if he has missiles left, he can't do anything with them. So there's a process by which one would think about that.

GEN. SELVA: If you're lucky.

Jim Garamone, you're up.

Q: Hi, sir.

GEN. SELVA: Morning.

Q: So both the National Military Strategy and the National Defense Strategy – sort of

building off the question from over here a little while ago – talks about the chairman as being the global integrator. What does that mean to you? And what does that – and what does that mean to the Joint Staff? Are you going to have to change the way it's organized and manned in order to fulfill this requirement?

GEN. SELVA: Yeah, two things. One is the global integrator – the chairman's going to be responsible for providing the military characterization of risk to the secretary and the president. Right now combatant commanders do that independent of one another, and we're left with a process of taking disparate opinions and kind of kludging them together to present to the president. That's an un-useful way of characterizing risk.

So two things will have to happen on the Joint Staff. We will have to robust our capacity to keep track of service readiness and assignment of forces. So where they are and what condition they're in is incredibly important. Right now we relegate that to services and combatant commands.

The second is we're going to have to be able to aggregate that information together and present to the secretary and the president in real time the risks they're assuming by the posture and position of forces and the readiness of those forces. And right now we do that looking in the rear-view mirror. So we're running a Formula One race, and the only thing on the car that works are the side mirrors, because everything we're doing is historical.

There's very little in the way of predictive analytics on the readiness of forces five months, six months, eight months, a year out, and where you might want to put them to mitigate risks that are either extant or emerging. And that's the role of the global integrator. And no combatant commander has those authorities, those tools or that particular assignment today. And so it's going to require some tweaking of how we're organized to get that.

Q: Thank you.

GEN. SELVA: Good morning.

Q: Hi. General, hi. (Inaudible.)

Just to go back to the Nuclear Posture Review, looking at it through like a whole, it would reflect a pretty big change in terms of nuclear policy. You know, the new missiles that you talked about, and your low-yield nuclear weapons, and lowering the threshold,

potentially, for the first use of nukes. So can you talk about what is sort of driving that change, and especially when you talk about, like, cyberattacks in terms of lowering the threshold? What is driving that change? And, I guess, how is that going to impact or – (inaudible)?

GEN. SELVA: Yeah. So I'll try to make three points, realizing that the review itself won't be released for a couple of days.

So, first of all, the review is largely consistent with our thinking about nuclear deterrence going back 70 years; reaffirms the requirement for a triad, reaffirms the survivability and the inherent hedging capacity across the legs of the triad, and the targeting problem that would present for an adversary that makes it increasingly stabilizing.

So it isn't a sea change from prior NPRs. The declaratory policy on use of nuclear weapons is completely consistent with prior articulations of the same. In fact, a lot of the open press conversation that's happened about the idea that we would resort to a nuclear attack based on cyber is actually not supported by the document.

So what the document does is it restates our preexisting statement about use of nuclear weapons and it says we reserve the right – I'm going to paraphrase, because I don't have the words sitting in front of me – we reserve the right to use nuclear weapons when our national interests, our population, our infrastructure, are attacked, with significant consequence, right. It doesn't – we don't stipulate significant consequence.

That's essentially the phrase that's been in our nuclear strategy, in our nuclear-posture statements, for a couple of decades. We reserve the right of first use. We don't use the words first use. We reserve the rights of use for nuclear weapons to defend our national interests and our population, period, end of statement.

There is a view that that was too ambiguous. And so what we went on to say was this will include but is not limited to nonnuclear strategic strikes in our population, our infrastructure, that of our allies and partners, or the command-and-control systems and indications and warning that are important to our detection of an attack.

We never said cyber. But the word is out, and the people who are saying we've lowered the threshold for the use of nuclear weapons are saying but we want these low-yield nuclear weapons so we can answer a cyberattack because we're so bad at cybersecurity. That's just fundamentally not true. The –

Q: A cyberattack could be considered at this point an attack on infrastructure.

GEN. SELVA: So context matters. If the attack has strategic consequence, if it kills a lot of people, if it interrupts our nuclear command and control and indications and warning system. These are all hypotheticals. We were suitably ambiguous in that space before.

So what we tried to do is say if you do this, if you attack the United States or our allies and it has these kinds of widespread consequences, we reserve the right to respond, which is what – precisely what we said in 2010. We just didn't actually say what we meant. So all we did was add one sentence of qualifying language, and it has been interpreted as you're going to use this if there's a cyberattack.

In point of fact, I – I'm not going to tell you the results, but I asked for a word search of the document for how many times we refer to cyber. That's how convinced I was that we didn't call out cyber as a specific reason why we would use nuclear weapons. And my intent was to make sure it wasn't in that declaratory statement. And it's not.

Q: And your word search turned up?

GEN. SELVA: It did turn up the word cyber. I told you I wasn't going to tell you the number. I can tell you it's less than that in the entire document.

Q: Less than 10.

GEN. SELVA: Less than 10 in the entire document. And it was not in that declaratory statement. So it's gotten an awful lot of press. We've gotten an awful lot of naysayers.

The last point – and I know I'm using up all the time; I'm actually over – low-yield ballistic missiles. We've had low-yield nuclear weapons in our inventory for decades. So having low-yield weapons does not, in and of itself, lower the threshold for use of nuclear weapons.

I'm actually on the record – if you want to look it up, you can; I did a breakfast several months ago where I talked about the value of having enough variety in the options we present any president that it deters our allies from actually – our adversaries from actually believing that they could engage in a limited nuclear strike because none of the weapons we have are appropriate to be a proportional answer to that strike.

So not lowering the threshold of us entering the fight, raising the threshold of our potential adversaries, chief among them the Russians, who have thousands of low-yield nuclear weapons. And that is really key to the declaratory policy and why we have the inventory of weapons. It's to present hedges, and also to present options to our leadership that actually prevent our adversaries from thinking they can take advantage of us.

So the declaratory language and the inclusion of low-yield, a new low-yield option, are actually designed to raise the threshold of potential nuclear attack, not to lower it. So it's important to think that through carefully from the perspective of not our side but people who read our NPR when it's finally released, because the person who leaked it to the press committed a crime. The document that was released still had a classification stamp on it because it was pre-decisional.

And that's – this is not, by the way, assailing free reporting of what gets put out in public, because once it's public, it's public. And somebody released it. But the person that did that, for whatever motive, actually committed a crime. And to me, that's really important, because we have to trust each other. Those of us who wear uniforms have to implicitly trust the person next to us that they won't use information they know about us or the institution for their own personal gain. And that person did.

And that's unfortunate, because it's actually caused misinterpretations, because not only was the document not complete. Some of the reporting on it has actually been inaccurate, because either the people don't have the actual document or they've picked the mere existence of the word cyber in the document as something new and different. And I'm not sure either is true.

So, sorry, that was real long. I do regret I do have to leave, so I used up everybody's time. Thank you for making the time to do this. I know you guys like to think it's us who have to give up time to do this kind of work, but I know you give up a big hunk of your day to do this too. I hope it was useful. Feedback is useful for me. Will Powell is my public affairs officer. So if I did a really bad job, tell him, because my ego is fragile. (Laughter.) If I did really good, just tell me.

But thank you very much for –

MODERATOR: Could I ask everyone to remain seated while the general and his team leave? He has to go to another meeting, and he asked us to wait. And could I remind folks that you do have to contribute to this breakfast? You don't pay all of it, but you

have to contribute to it. Alex Dempsey (sp) is collecting checks and cash in the corner there. Don't forget.

Thanks very much.

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