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Moderator: Good morning everybody, and welcome to this Defense Writers Group with Dr. John F. Plumb, Assistant Secretary of Defense for Space Policy. This is Dr. Plumb's first time with us, so I promised everybody would behave except for me.

The ground rules are as always, this is on the record. You can record it for accuracy of quotes but there's no rebroadcast of audio or visual.

A few of you emailed me in advance for questions. We'll get to those, then we'll go around the table for the hour, saving a few minutes at the end for Dr. Plumb. So sir, thank you for joining us today. It's an honor to have you here at this important time.

ASD Plumb: Thank you, Thom.

Moderator: The department just released its first-ever Commercial Space Integration Strategy. That was the day before yesterday. So talk a little bit about what drove the decision to do that, and if you would give us your two or three major goals to come out of that, what would they be?

ASD Plumb: First of all, thanks. It's great to be here. I appreciate this opportunity.

The Commercial Space Strategy has been a full year in the making I would say for us. You asked me what drove it? It's very clear I think not just in the department but across the country and the globe in the wake of the Ukraine invasion how essential

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space is to warfighting.

I like to tell the story that when I was in the Obama administration I was in the DASD for Space Policy Office for half a year, and it was a hobby shop. A few people talking to a few other space people. We often went to meetings where the IC would eat our lunch for budget fights. But there was no downward pressure. Now space is constantly a topic at the White House, the Pentagon, it's just a very different situation.

So when you also look at the changes that are happening in the commercial sector, it's no surprise that the commercial sector has to move faster than the Pentagon because they have to make a business case to actually show their investors they can make some money and get a return on their dollar so they can stay alive. So the speed and the innovation in the commercial sector, especially at this time in our history, is just incredible.

The question is, shouldn't we be trying to harness that? The answer is of course, yes. So how do you do that? There's a lot of different parts of the Pentagon and frankly the IC that are working on different pieces of this and we thought it would be really useful, and the Deputy thought it would be really useful and the Secretary thought it would be really useful if we had a strategy for all of OSD to say yes, this is the thing we want you to do not just on your own because you have an individual set of leaders at the moment that think it's a good idea, but this is a way forward for the department, so how can we figure out a way to use some of that innovation and bring it in so that we can also use it in conflict.

You asked me for goals, I guess that is the goal. One of the goals is to strengthen deterrence. Two, to do it in a way that is not, you know, possibly in a way that's affordable. So as we see all these different pieces out there why would you want to build the whole thing if somebody's already providing that service? And then also the speed problem has increasingly become part of the deterrence problem the way I think about it,

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which is we have to move faster to stay ahead of the threat. And legacy, space is almost the perfect example, right?

I would say up until the last 20 years, maybe in the last five years, most space [inaudible] the department. It took five years to figure out the requirements, ten years to build, maybe longer, goes over budget, and then when we get it up there, it flies for 20 years because we build massive, really robust things. So there's no technology refresh cycle in such a thing and your requirements, the requirements of 1980 or 1970 are now still being perhaps flown years later -- that's probably a stretch. Let's say 2000, but how do you solve that problem so you don't have to think 25 years out?

Well one way to do it is this technology refresh that the commercial sector is doing. That's probably my biggest goal.

Moderator: Thank you very much.

The first question from the floor, and ask a long one so Dr. Plumb can have some breakfast. Maggie Miller of Politico,.

DWG: I'm going to ask kind of a specific question. I report on cyber and tech issues with defense, and of course I know cybersecurity is another one of your main focuses. Can you talk about the evolution of cyber threats in space and how the Pentagon is looking at that after [inaudible] China, and step up their game?

ASD Plumb: Sure. On cyber threats in space, first of all, massively important. We have to make sure the Pentagon just started go build in cyber defense from the ground up with their requirements. In space, it's not really a joke because it's true, but people always talk about well we buy the satellites but then do we buy the user equipment? Why is that user equipment or the ground link always the last thing? Same with cyber. Cyber can't be an add-on later, it has to be from the start.

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The beauty of cyber from an adversarial standpoint is, you might be able to do what I would call a volume kill with a well-designed cyber attack. You can do one versus many. It's certainly a lot cheaper than most other forms of counter-space that you can think of. And the attack surface, by which I mean all the different ways that someone might be able to attack you with cyber is very large for a constellation. It's very large of [inaudible] a satellite, but it's also very large for a constellation. You needed a ground system, you can think about getting the link, you can think about attacks even in space. There is just a large attack surface if you're thinking about it, and the right way to think about that is just to assume that the adversary has compromised parts of your system and then how do you fight that?

I think the legacy approach has always been a shelf. Basically okay, we have a wall, this is my wall for cyber defense and I'll just assume you can't get in. No one believes that anymore. No major commercial company believes it anymore. Whatever email you're using right now, nobody believes it anymore, it doesn't work. You have to have this defense in depth. And since you're giving me this change to answer this lengthily, because I have the floor, the thing that's interesting in this commercial strategy about this is we have to make sure that if we're going to bring commercial systems in that we want to use not just in peacetime but also in conflict, that they also have enough cybersecurity for us to rely on the fact that they will actually be available in that conflict and not be so compromised.

So the department has a problem, we have to get cybersecurity -- if you're trying to make a business case and cybersecurity costs more, that's not always the first thing I think a company might be investing in, so that's one of the inherent tensions in the Commercial Space Strategy.

DWG: A quick follow-up, what sort of threats are you seeing from China in this space?

ASD Plumb: China's persistent engagement is also a thing that

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China does. As you know, China constantly uses cyber to hack and steal. That isn't changing.

Moderator: Next is Michael Gordon, Wall Street Journal.

DWG: I have two Russi-related very specific questions.

Given a range of estimates about how imminent the Russian projected ASAT capability is, the one that the White House has said would be a violation of the Outer Space Treaty if it were to be deployed, people described it as some sort of an EMP system. What is your sense now of how limited it is? Do you expect it to be deployed? And how much of a worry is it? And I have a quick follow.

ASD Plumb: In our unclassified setting here, I'll just say it's very disconcerting. We're worried about it. There's no immediate threat to anything, and there's certainly no threat to people on earth, I believe is the way to say it in this forum. But I think that as with anything in Russia, these high-level systems are entirely up to Putin. Will they be developed, will they be deployed?

So we're engaging with allies and partners and with Russia, frankly, to convince them that this is not a responsible path.

DWG: Are you making progress on that? Or is it unclear?

ASD Plumb: Am I personally making progress is a different question. I will say, well hopefully we're making some progress, but again, I guess I would just say unclear as far as the ultimate decision-maker [inaudible].

DWG: My follow-up question is there have been a number of reports particularly from the Ukrainians that Russian forces have accessed Starlink terminals and are able to use them. [Inaudible] other groups are in other parts of the world as well. What's going on with that, to your knowledge?

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ASD Plumb: I'm certainly aware of these reports. I think we work closely with Ukraine. I work closely on the space piece with Ukrainian Starlink, frankly, and am aware of the reports and working with the government of Ukraine to find a good way forward.

DWG: But are those reports true? That Russians have found a way through the black market or other means to acquire these [inaudible] terminals?

ASD Plumb: I guess I would say it would be hard to believe that they haven't figured that out, at the unclassified level. And so then we have to make sure that we are, well, it would be in the interest of Ukraine to block their efforts.

Moderator: Next is Shelley Mesch of Inside Defense.

DWG: Hi, thank you for talking with us.

I wanted to expand on [inaudible]. You mentioned that we have a lot of [inaudible] that are potentially decades old. I just wonder if you take at least a couple of years to get up to [inaudible] satellites, are you able to further protect those [inaudible]? [inaudible] upgrades to them? Also how do you with [inaudible] commercial services now, how do you ensure that those are cyber protected without ensuring that the satellites before they are launched have the necessary cyber requirements?

ASD Plumb: Two separate questions. The first question, legacy systems are obviously hard to update. That doesn't mean you can't take additional actions on the ground or on the links to make them more protected. There are a number of individuals who are responsible for each individual system throughout the Pentagon to make sure that we have cybersecurity through our various systems in space.

So going forward in theory this is easier, because if you build things from the ground up with cybersecurity, then that is a very different situation than to try to strap it on later.

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As far as the question of commercial, I think it's similar to the answer I just gave Maggie over here, but roughly, on the commercial piece, one of the pieces the department needs to look at as we try to figure out how to better integrate commercial solutions into our systems, is to ensure that those cybersecurity practices are a part of that. The power there is the contracts, but we have to be smart buyers and make sure the contracts are written in a way that makes sure that we are getting the prices we need. Again, it all comes back to making sure that the systems will be available not just in peacetime but in crisis and conflict.

DWG: Can I follow-up? Was there anything that you wanted to do with the Commercial Integration Strategy that [inaudible]?

ASD Plumb: That I wanted to be in. Yes.

DWG: Can you expand in that?

ASD Plumb: Look, I'll just say -- actually, only really small tweaks. So there's nothing large left out. I'll just say if we went to be a little more forward-leaning, we've tried to characterize the 13 different space mission areas that Space Force has laid out, as whether they are primarily government, hybrid or primarily commercial. We've ended up with primarily commercial is really just SpaceX, Mobility Logistics, which is launch which is clearly mostly done by commercial companies at this point. Mobility and logistics so far, there's only commercial companies.

Spade domain awareness is an interesting example. That was kind of on the edge, should that be hybrid or should it be primary commercial? There's a tremendous number of companies that do space domain awareness. Well, and perhaps better than we do in some ways, probably. So the question really became that. So that's kind of the one marginal case. Where it exists right now is hybrid. Where it could exist in the future I think is commercial. So that was just the question.

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So I think we really have done a very nice job of capturing not just the lay of the land but where would it be [put] in the department.

Moderator: Next is Demetri Sevastopulo, Financial Times.

DWG: Thank you.

When the DoD [inaudible] report comes out every year, it's never the headline. But the number of satellites the PLA has put up or PLA affiliated satellites is always huge. So the question is, what are the kind of key priorities for the Pentagon in this area when you're trying to counter China on how can allies help [forward] some of those priorities?

ASD Plumb: First of all, great questions.

Second, yes. It's funny you say it's not a headline, of course that's a headline for me, but right, not "the" headline.

So the PLA is sort of mimicking the United States in the concept of going after proliferated constellations. No accident. There's military value to that. And so your question about allies, I believe working together with allies and partners in space is a big of a gamechanger for the way you think about approaching space because it does raise the deterrence threshold, right? Most of our space systems are in many ways intermingled. So if you have allies working together and you have geography working together and you're cooperating, then the question is, can you make it so you can't just attack one country but rather you're attacking a number of allies, even with the same attack. That is a very different problem set. So trying to make it more complex to try to avoid that conflict in the first place.

DWG: Just to follow on, a minute ago you [inaudible] the more you link Us and allied systems that China would, to simplify, would want to [inaudible] actually take out more than one

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country's systems. Is that a concern?

ASD Plumb: Sure. I don't want to confuse cooperation with reducing resilience. What we do want is to be resilient. I think adding allies and partners makes us more resilient, more capability, more ground stations, more geography, but that also makes adversary planning more complex because you now have more target sets to think about.

Moderator: Either random or coincidence, two Dmitri's in a row. Dmitry Kirsanov of TASS.

DWG: Good morning, sir. Thank you for doing this.

Going back for a second to Michael's question on Russia and what do you think is Russia's development in [inaudible] capability. You mentioned that you're engaging not only with allies and partners but also with Russia. Are those [contacts] still going on? Could you give us a bit more details about that?

ASD Plumb: First of all on the contacts with Russia, that is not me personally. That's at much higher levels. I will say that yes, those conversations are still going back and forth. We've had teams brief different allies and partners. I will just say that the United Nations Security Council, this resolution to reaffirm commitments to the Outer Space Treaty is a big part of that outreach and a big part of that effort.

DWG: Secondly, the Russians and the Chinese tabled draft proposals, draft treaties, I think, back in 2008 and then in 2014 or '15 [inaudible] weapons in space. Both those times the United States refused to engage on those, rejected those proposals. What is the current thinking of the administration on proposals of that nature?

ASD Plumb: I'll tell you my current thinking. My current thinking is that those are political ploys and they are neither honest attempts, they're not verifiable, and they're really just a way to kind of play a game at the UN, both Russia and China

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are deploying weapons in space and so the idea that there is something out there that would say this is not an okay thing. It's just very confusing. What the United States has been trying to do to counter that is show the world that what we need are verifiable, straightforward ways to go forward. The direct ascent ASAT testing band is one of those. You can attribute direct ascent ASAT tests. You can see them. If someone does them you can say okay, this was a violation. And it's the norm, right? Not a treaty. But the idea of what are those things that we can do as a world, as responsible spacefaring nations, that can also be verified so that they have some teeth.

DWG: Thank you.

Moderator: Next is Tony Capaccio of Bloomberg.

DWG: Did you have any heads-up that Turner was going to say what he said that caused the White House disclosure? And he disclose classified [inaudible] level [inaudible] congressman talked about [inaudible]?

ASD Plumb: First of all, on the second one I have no indication that Congressman Turner did or would do such a thing.

On the first one, I think I was aware, as many in the space community were, and we had been briefing people on the concern, so I knew it was concerning to him. But no, the fact that it went kind of public with this declaration that everyone needs to read this was a bit of a surprise, especially since additional briefings were scheduled to be held I think just a couple of days after that. So no, that was not, that was unexpected.

DWG: Put your nuclear hat on. Two legs of the triad now have major delays. Columbia, 16 months to its October '27 first delivery; and Sentinel [inaudible] Nunn/McCurdy and couple of year delay possibly to IOC. On your way out, you're leaving next month, how concerned are you that two legs of the triad seem to be wobbling and might adversaries in China or Russia use that to some advantage?

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ASD Plumb: I would not conflate those two things, Tony. I would say first of all, Nunn/McCurdy, you have to be careful just because the kind of root cause analysis is ongoing, and I don't have acquisition authority. You know, Bill LaPlante's going to have to figure out the direction.

But I will just say we are committed to modernizing the triad. That isn't going to change. If there are schedule slips, we're going to have to mitigate whatever risk that might add, but that's kind of a small risk. We're not going to get rid of a large -- we aren't going to get rid of one leg of the triad. So really the question is how do you manage what you might call the transition from the legacy system to our modern systems? The air leg seems to be in really good shape. The Columbia obviously slipping some, but the Ohio still has some life in them. And then on Sentinel, clearly that is a problem we're looking at and how we're going to figure this out. So we're going to have to figure out that transition and manage that risk. The Strategic Posture Commission has come out and said the triad in the current program of record, which includes modernization, is necessary but may not be sufficient to the threats we're facing, so we're also starting to look at what are these other force posture changes we might be able to make that don't break the bank or change the, put too much strain on our nuclear complex that could help address that as well in the 2030s.

DWG: Are you looking at Ohio-class extensions and Minuteman 3 extensions?

ASD Plumb: So Minuteman 3 extension is a tough thing to say out loud, so I would just say managing it through this transition. Right? There's no service life extension for the Minuteman 3. We've looked at this multiple times, but clearly need the Minuteman 3 to be available through the transition until Sentinel is up and running.

Moderator: That's the last advance question, so from the table,

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just get my attention. And please identify yourself for the transcript.

DWG: Thank you. Sandra Irwin, Space News.

Dr. Plumb, I wanted to ask you since we heard that you announced to your team that you'd be leaving DoD, can you share what your next plans are? Where are you going?

ASD Plumb: I don't have those plans yet. It's very difficult to do that from this job I'm finding. But there's a lot of responsibility in the job. I would just say I told the administration when I came in I would do two years. I hit my two-year point in March. I think we have just hammered away and made tremendous progress on what were three C's and now are four -- space control, space classification, space cooperation, and now commercial space. Four C's now.

I have also noticed that my kids -- I've got little kids. I need to spend more time with them. They're learning how to play catch. I want to be part of that. So I need to balance that a little bit more.

But as for my next plans, I have nothing to announce, and I just need to find enough breadth and space to be able to figure out those next steps.

DWG: And just as a follow-on, you were [inaudible] for state policy after they created that position in the NDAA.

ASD Plumb: Right.

DWG: Whoever comes next, any advice for the next guy? Or woman?

ASD Plumb: For the next person? Yes. I would say, look, my approach to government is results matter, so find those things that you think you can make a change on and then push and push and push and push and push. I think you have to be able to

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focus on -- choose a few things and focus on them, because otherwise the building tends to spread you so thin that you could just go to meetings all the time but never actually accomplish. So pick an area and push. And what I found is the whole building responds to that. It's really rewarding.

Moderator: Jeff Seldin, VOA.

DWG: Thanks very much for doing this.

Two questions. You had this policy with working commercial space. At what point do you worry that commercial companies [inaudible] having too much power and suddenly be on the stage of almost equal to the power or the control that you expect from a nation state adversary? And as part of that also, how do you make sure that space doesn't become completely militarized if you're working with commercial companies? At what point, how do you go about drawing a line so that adversaries don't think it's open season on everything all the time, or are we already past that point?

ASD Plumb: Okay, so two different questions. The first question is overweight of any one particular commercial company that would start to feel like a power base. I guess on that I will say a couple of things. One, competition is good and we do encourage competition, not just as a country but also as a department to make sure that we have choices.

And then two, the Department of Defense is a large procurer of space [inaudible] services and space articles and so we have contractual power which means we can put you on contract and make sure the contracts are correct and they respond to our requirements. So that should obviate some of the I think concerns you're asking about.

On your second question, the question of like thousands of commercial satellites are going up, right? And it's not just Starlink, it's many other companies are putting up thousands of satellites. If the Department of Defense is using those

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services, you're asking does that somehow make it more militarized. I don't think so, but I do think it makes the problem set more complex.

Frankly, we already use some of these things. All of us are using these same systems. So for all you know, some of your phones -- GPS is the easy example, but you don't know which way your internet traffic is going back and forth across the globe, right? Maybe it's going through space, maybe it's going through cables. It doesn't matter to you as a user, it gets to where it needs to go.

There is some entanglement there, which is just true, it's not even on purpose, it's just true. I find it almost impossible to believe at this point we can somehow say these are the military satellites, these are the civilian satellites. They're more blended. I think that's a new type of dilemma. I don't know if it's completely thought through.

DWG: This one's a little bit out there. It seems most of what you're concerned about are threats emanating in some way from earth to space. How much time do you spend, if any, on other threats, from space to earth-based systems?

ASD Plumb: From space to earth-based systems?

DWG: How much do you worry about, you know, like aliens whether --

ASD Plumb: None.

DWG: -- they exist.

ASD Plumb: Just one. I hope they exist, but I don't worry about it.

Moderator: That was a careful answer.

DWG: I thought we had our headline.

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ASD Plumb: If that's a headline I've misspoken. [Laughter]. It's a big universe. It's just no on my top thousand.

DWG: Kimberly Underwood from AFCEA, Signal Magazine.

I want to talk about procurement amongst the three-letter agencies. How do you help, from your position or DoD, how do you help guide those policies? What are the considerations to be worked out? And how do you see it being worked out or what needs to happen.

ASD Plumb: I'm sorry, you're going to have to be more clear as to what you're asking.

DWG: Sorry. For space-based ISR.

ASD Plumb: Okay. So for space-based ISR how do policies help?

DWG: To understand who has the procurement [rights], whether it's NRO or NGA? Who has that contractual power and how do you work that?

ASD Plumb: I feel like you're a little outside my ski slope there. The NRO has contracts with commercial providers for electro-optical imagery, and what happens with that outside the NRO getting it, that is not my lane. I don't have acquisition power. I don't have any contract power. I think the top line would probably be if the government buys it once should we really have to buy it again?

DWG: Valerie Insinna with Breaking Defense.

I wanted to ask a couple of follow-ups to Mmichael's question about Starlink in Ukraine.

ASD Plumb: Did I not answer that fully? That's okay, go ahead.

DWG: I just wanted to pick at it a little bit more.

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ASD Plumb: Sure.

DWG: You mentioned that the US is working with Ukraine on this topic. Can you provide any more detail? Are you guys providing any technical assistance or --

ASD Plumb: I don't know if I can provide any more detail, Valerie. I can give you some basic talking points after this if you'd like. I can dig them out of my phone, but I don't have any more detail for you outside of where we're working with Ukraine and we're working with Starlink.

DWG: And if I can just follow up, maybe there's something that gets to things that are in the commercial space report that you guys released, but what sort of -- if something like this happens with, you know, an adversary impeding or intruding into a commercial space technology like Starlink, what sort of responsibility does the company have in terms of dealing with that vulnerability? And is SpaceX doing what it's expected to?

ASD Plumb: I'll just say, and I've heard this a few times. Starlink is a great partner. SpaceX is a great partner. I think, and I'll also say they're not in violation of any contracts with Department of Defense.

From a pure business approach, Starlink needs to meet the business, you know, licensing requirements of Ukraine, for the Ukraine [inaudible] and so that is part of the situation. So if a Russian military service or military force has access to a terminal that they've stolen or bought on the black market or however they got it, that is in violation, no doubt of at least licensing terms if nothing else. So how do you meet those requirements? That is, it's an interesting intersection of what are the business requirements and the licensing requirements for a particular country versus [inaudible]. But I would say they're a very good partner with us.

Moderator: I'm going to use the power of the chair for sort of

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a follow-up.

As everybody here knows, I am obsessed with the prospect of swarming drones as the smart counter to China and elsewhere. And DepSecDef Hicks was here laying out Replicator. And not being a techno guy, if we field thousands of attritable drones over the Taiwan Straits, do we have bandwidth to manage all of that?

ASD Plumb: Interesting question. I don't know. I will say we are building a space data network. This is one of the things the Space Force is looking at as part of CJADC2, being able to move information around the planet for the military and also to move it back to systems fast. And it is very clear from the Ukraine conflict that drones are now a part of 21st century warfare in a way that I don't believe anyone fully anticipated, although many of us saw it coming. Like the idea of how fast it's evolving and how fast that battlefield changes on almost a daily basis or a weekly measures with countermeasures [inaudible] is shocking. So I think it is definitely part of the future, and I think the question on bandwidth is, is that really the right question?

Moderator: Fair enough. Thanks.

DWG: My name is [Inaudible], Japanese newspaper. Thank you for this opportunity.

[Inaudible] agree to apply the [inaudible] treaty to space last year, and given the threat from China and North Korea and Russia, what kind of role do you expect Japan to play in space? And also what could be challenging to promote cooperation and information sharing?

ASD Plumb: Great question. Our depth of cooperation with Japan on space continues to increase. I'm very proud to have been one of the leaders of the charge to invite Japan into the Combined Space Operations Initiative which they joined in December of last year which is I think a very important step. We need to

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work deeper. I will say with Japan we have to, on information sharing we do have classification issues and we have to make sure that, you know, the more sensitive information can be better protected, and how can we have these agreements. So we are working on that together. But there is no question in the minds of really any space leaders in the department that Japan is part of that future and we're really glad to be working deeper with them.

DWG: Now you have concerns about Japan's security --

ASD Plumb: And ours. It's just a thing we have to work on together, right? Cybersecurity is almost a bedrock requirement for being able to do deeper cooperation. And one of the problems, I talk about space over-classification, but even when it's not over-classified, space is pretty classified. So some of these relationships, the limiting factor in Japan is not the only one. I don't want to pretend for one second -- I hope that's not what you're hearing. One of the limiting factors with doing allied cooperation in space is the ability to share classified information [inaudible].

DWG: Courtney Albon with Defense News.

On the earlier discussion around cybersecurity for commercial space systems, the Space Force has provided some funding for military unique capabilities on the launch side for launch companies. I'm curious if there's any consideration of -- realizing these are very different mission areas -- if there's any consideration for providing some money for companies to increase their cybersecurity capabilities or [building] some of those things that the military's asking them to have.

ASD Plumb: That's probably a little early in need, that question. You're asking would we pay more for cybersecurity? I think in a world of competition I think the question would be wouldn't cybersecurity be a distinguishing feature that you'd be more likely to win a bid. So I don't think this should be a government, here is additional money to add these pieces, but I

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do think if there's a capability we see that is, could be very useful to us, we would want to ensure the cybersecurity is there and obviously if that costs more money then that would have to be paid for by the customer.

I don't know if that's quite the same as the answer, but I just feel like the structure of the question was a little bit different than the way I'd approach it.

DWG: That's fine.

Kind of a different topic, your office has been working on this International Space Cooperation Strategy. Can you give an update on kind of where that's at and how close you are?

ASD Plumb: Closer. It's actually in pretty good shape. I just got some good feedback from Space Force on it and I think we're in a pretty good place, we're putting some final tweaks on it. I am not sure that will be through -- these strategies have to go all the way to the Secretary, so I have no hope that it will be through the Secretary of Defense before I leave. But I do think it's on the right track and I think it will be a very useful and hopefully, again, just a right set of overarching directives to the department what to go after to try to get some priority lists so that people understand. This is a big deal, but we can't just spread ourselves -- peanut butter spreads don't work, so what do we focus on? I think it will be helpful. It's in good shape.

DWG: Can you give a preview of kind of what --

ASD Plumb: It will be great. [Laughter].

DWG: Hi, [Inaudible]. Thank you for your time.

[Inaudible] classification and I apologize if you've talked about that, but you've done work through [inaudible] during your time. I was just curious, do you believe that the current classification policies in place are not too fully realized

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[inaudible] strategy in getting commercial entities [inaudible] with DoD, or does more need to be done to [inaudible] barriers?

ASD Plumb: The policy that I'm in charge of are now in good shape. We just completely overwrote the old space classification policy. So from [inaudible] of what things are classified due to policy concerns, I believe that problem is solved.

Issuing the policy didn't change anything overnight. The services are still going to have to work on bringing things kind of out of more, you know, higher level of classification down to things that are more reasonable.

The idea there is that it's much easier to share things at the Secret level than at the SAP level. It's easier to share things at a Top Secret level than at the SAP level, so it just making things easier, companies will still have to have access. So I think some of the challenges of the department are just in the department. The US government currently has it, to include the IC here as the ability to grant classification access and facility access for companies that want to do classified work for the government. We still have some barriers.

So one of the things that the strategy calls out and I think the Secretary in his forward clearly says we've got cultural barriers, we've got, it says bureaucratic barriers. You can read the forward. But there are a number of barriers. They're all legacy. Some are built into instructions. Some are cultural, people just don't want to change. So how do we overcome all those things?

And one of the points of this is we have to start knocking those things down. So I think I've helped lead the way on that but it's not enough to open the flood gates until we really work on it through other parts of the building too.

DWG: Thanks for doing this. Liz Friden with Fox News.

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I have a question on space junk. There have been two reports in the last few days of possible space junk crashing into a Florida man's home.

ASD Plumb: I did see that.

DWG: -- investigating it?

And then another report of part of a Chinese spacecraft crashed off the coast of California. Is it a concern that things just start falling from space? Are you concerned about that?

ASD Plumb: Space debris is a problem. There are now, the technology now exists to control reentries, to control rocket body reentries, this is proven day in and day out, and to do active debris removal. The best way to remove debris is to just de-orbit your satellite before it ever breaks up.

So I think the most responsible space operators already know this and are doing it. That doesn't mean that our overall regulations require it at the level that I think we need. Of course DoD's not a regulatory body, but it's very clear to any space operators, especially in this world of proliferated thousands of satellites in low earth orbit, have to have active [control]. For low earth orbit that means disposing of them, like burning them up responsibly in the atmosphere while they still have enough fuel left to do that. At higher orbits that may mean sending them to kind of a disposal orbit while they still have enough fuel.

For the earth piece, it's really the low earth orbit piece. I will say like China, multiple launches in the last few years, the Long March rockets where the first stage has just had uncontrolled reentry. And their point is this doesn't violate any rules. It's true. But it's not a responsible way to behave. I think they're working on it, but it's a fixable thing and any responsible nation should do it and that's kind of the norm I think we're looking to establish, is how do we make sure that the detritus of a launch or of a satellite once it's no

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longer viable is cleaned up, to not foul the domain. Unlike any other domain, these things just stay there forever. They don't sink to the bottom, they don't fall out of the sky, they just stay there for years and they create a problem. And even worse, over time satellites that remain on orbit tend to fragment into smaller pieces. So we just need to dispose of them responsibly, and of course responsibly means either burn up in the atmosphere or hit some part of the ocean or some place where there's no people.

DWG: And just to follow up, you were sort of getting to this, what can the US do to make sure that China and Russia follow our same standards?

ASD Plumb: Interesting question. I think this issue that we keep coming back to is one of norms, which of course they're not treaties, which of course they're not even really laws. They're just how do responsible folks behave in whatever domain to make sure that people can continue to operate.

So I think putting pressure, public pressure even, on doing this responsibly does have some value, and of course having conversations with spacefaring nations to talk about what are the responsible ways to do this has some value as well.

So people don't have to raise their hand and sign up to it, you can see it in their actions. So if China starts to move to controlled de-orbiting or controlled reentry of their launch vehicles then we will know that they have also understood this, and I hope that they have and are marching in that direction because it's what a responsible space power should do.

DWG: Matt Beinart, Defense Daily.

Another follow-up in regards to kind of your time concluding at DoD soon, but beyond the, you know, seeing the priorities implemented in the recently laid out Commercial Integration Strategy, what are maybe two to three other areas that you would hope your successor would kind of take on as major priorities,

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major kind of policy areas, carrying on [inaudible] in this position.

ASD Plumb: Other priority areas?

DWG: Yes.

ASD Plumb: I don't have those. I have my four, and I can imagine pushing deeper into those. There's much to be done in each one still. [Inaudible] implementation, allied cooperation is just beginning to get off the ground and we do this in every other domain. General Whiting at Space Command is kind of taking this bull by the horns here with a Combined Space Operations Initiative and trying to actually turn it into reality. That's something I'd want to keep putting both kind of a flashlight on and also keep supporting to try to get us to the point where it is really normalized. I've been talking about that normalizing space -- normalizing space is an operational [inaudible] for the last couple of years and we are closer but we're not there. So how do we make it that US allies can also cooperate together as any other domain in space and it's a straightforward way of doing it.

This is kind of why I focus on these, but these are the four we really need the most progress. I am sure this will emerge.

The work on norms. State is the lead but DoD is one of the main players there as to what constrains or doesn't constrain. How do we figure out how to work that through to kind of increase the safety and security and stability of space? DoD is a big piece of that and I think we could do more work on that.

DWG: I may have [inaudible] a second ago, but the International Space Cooperation Strategy, how soon is that potentially being completed and rolled out?

ASD Plumb: I can't speak to that. Probably, certainly at least a month. Hopefully the next few months would be my hope, but it's not like on the Deputy's desk or anything, but it's getting

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closer.

Moderator: Any other first time questions before round two?

Tony?

DWG: A couple of questions. When you talk about over-classification, to be clear here, you're not talking about -- this is between allies and partners, not between the department and the press or the public, right? Over-class -- I want to hear your view going out, leaving the department over-classified to information the public should have access to.

ASD Plumb: No, sorry. Thank you. That is not what I mean.

From a warfighter standpoint, DoD responsibility, warfighters fight at the Secret and Top Secret level --

ASD Plumb: And the SAC --

DWG: -- systems that move around at the Secret and Top Secret level is how we pass information. So if you have Top Secret information it's not clear that an Aegis destroyer can receive that information because Aegis systems are at the Secret level. So you need to pass information around at the right classification level to actually be used, otherwise what is the point of the information? Warfighting isn't done to make an intelligence product. Warfighting is I need the information now so I can react to it.

The driving reason behind the classification strategy rewrite is to give the services the opportunity to bring things out of higher classifications, Top Secret down. SAP down, right? SAP is above Top Secret and it really limits your ability to share, so how can you bring it down to systems that the warfighters can use so we can actually use all of this information in a warfight to our advantage. That's my point.

As far as bringing things down to the unclassified level where I

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would tell people at this table about it, not my concern. Over time some things may do that. That is not the point of the strategy. The point of the strategy is to be able to empower the warfighter.

DWG: Counter-space. Does your office, or has your office, have you crafted in your two years in office a responsible use of counter-space that flows down into, Space Force is doing it, and coms, in terms of being able to go after Russian and Chinese satellites. Is that part of your world?

ASD Plumb: First of all, yes. Counter-space and responsible counter-space is definitely part of my role. General Saltzman has talked about responsible counter-space. We don't do a lot of conversation at the unclassified level on this, but of course.

So when I talk about space control, I'm talking about how do we make sure we can protect and defend our men and women in harm's way from threats that might be enabled by space, and I'm also talking about how do we make sure that our systems are protected so that our men and women in the fight can receive those services from space that they need. That is kind of one of my primary responsibilities?

DWG: What about going after those, US offensive capability to after Russian and Chinese satellites? You talk about ASAT weapons the Chinese and Russians have up the kazoo, all you guys do. But you never talk about US capabilities to go after Russian and Chinese.

ASD Plumb: That's right.

DWG: Why not?

ASD Plumb: We just don't.

DWG: Hi, Lauren Williams with Defense One.

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I'm going to be [inaudible] out there --

ASD Plumb: Okay, Lauren.

DWG: I'm sure you can share [inaudible] conversations that [inaudible] with allies and partners to increase the cybersecurity as Ukraine [inaudible], I assume the more [players] the more complicated that makes it.

ASD Plumb: Yeah. If there's a specific forum for that I'm not aware of it. It is part of any conversation so we talk about can we build systems that will allow us to share information at classified levels, or even unclassified levels. Cybersecurity has to be built in from the ground up. I'm not so sure -- I think we're getting to the point where cybersecurity is a part of every conversation, so it's sort of built in.

DWG: Following on that is DoD also moving the cybersecurity [inaudible] the defense industrial base, and I'm curious --

ASD Plumb: Yes.

DWG: -- if you had any sort of intersection there, if there was any like part that you own that you think is really important for --

ASD Plumb: No, I mean my office is certainly coordinated. That's not my purview.

Moderator: Round two. Michael.

DWG: You mentioned this briefly, but I'd just like to return to it. Strategic Posture Review discussed the issue of steps to maintain current force levels if Sentinel's delayed and Columbia-class is delayed. My question for you, though, is that's a commission. What particular steps is DoD focusing on should Sentinel, if it is going to be delayed, be delayed to keep levels up to like say [50] strategic warheads? Is it uploading warheads, changing bomber alert rates, maybe keeping a

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Trident at sea longer? Are you working on those kind of particular steps? Not to exceed the New START level but to maintain current force levels should our CTU programs be unduly delayed as seems quite possible?

ASD Plumb: Yeah, similar to what Tony asked earlier, but I'll just say that without giving you any specifics of our internal deliberations, we're looking at whatever we might need to do to make sure we can maintain the right force levels to maintain deterrence. I'm sorry if that's not satisfactory. I have to be careful about getting ahead of our deliberations. But the Strategic Posture is a very useful document for us. We use it as a reference point and it's kind of a jumping off point to what things we might need to be doing. I was carrying it around with me for a while. I'm not today because I thought this was going to be on space, but that's okay.

But it's very useful to have that document out in the public, kind of in a bipartisan-released commission. It's very, very useful for us to say okay, here's the world of things that we can be looking at possible. Obviously we have our own deliberations, but specific changes, I'm not comfortable -- I'm not comfortable talking about what we may or may not be considering. I'm sorry.

Moderator: We were fortunate to have [Inaudible] brief us on that when it came out.

ASD Plumb: Great. I used to work for her.

Moderator: She's a terrific public servant.

Demetri, FT.

DWG: Now that you're on your way out, can you tell us what has surprised you the most over the last two years -- not in terms of the Russian issue which you talked about, but in terms of the Pentagon and bureaucratic and external events, what has surprised you the most?

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ASD Plumb: Two things. One, how proliferated low earth orbit satellite communications have changed the game. It's surprising. There's no, I mean it's exciting, there's a lot we can do there, but it is new and I think we've just begun to tap the potential of that. Not just as a department, but in general, space users, [it's just fascinating].

Two, the growth of China's space capabilities, and frankly, nuclear capabilities if you want to be honest. Those two things, kind of the scale and the speed of both surprising -- and I think Secretary Austin kind of day one telling us to focus on China as the pacing threat, really important for the whole department to pivot from our thoughts on how you conduct fights in Afghanistan or Iraq, when we basically have air superiority, space superiority, to a near peer really has changed the game, changed our thinking, and frankly, made the department all focusing one direction. It was a really exciting time to be part of the department where we have a challenge [inaudible].

DWG: To clarify, is it what they've done in the last two years that surprised you, or because you've had access to things over the last two years that you wouldn't have had before so you're seeing a different picture?

ASD Plumb: Well, on the last two years piece, I think the nuclear part probably is more immediate and more -- but the pace of China's satellite constellation buildup is public record and that is surprising as well. I'm not saying it started two years ago, but it didn't start 20 years ago. It's kind of the last 5 to 10 years. I will say an interesting version of -- I was there with the Obama administration until 2015. Step out. Come back. Massive change. Significant step function change. That is not a normal experience, I think, and I think that is one of the things [inaudible] in the department like how do we get after this and make sure that we can maintain deterrence. Doing fine, but the threat is growing. So that has been the thing. Kind of that step function. I actually think [inaudible] coming back has been a useful eye-opener to say wow, this is dynamic,

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this has changed [inaudible].

Moderator: Sandra?

DWG: Thank you. Dr. Plumb, on your point about classification, I think the Commercial Strategy mentions that DoD wants to share intelligence with --

ASD Plumb: Uh-huh.

DWG: So is that [inaudible] companies that have security clearances [inaudible]? I mean [inaudible] are you like opening up to companies that don't have security clearances?

ASD Plumb: That's a great question. Again, this is a thing that is still being worked through. How do you share threat information with space companies? The easiest way of course is they have access to classified information and you have a way to pass them classified information, and then they have to have a way to be able to -- this can become a bit of a challenge -- figure out how to get their company to respond to those threats even though most of their company works only at the unclassified level. So that's harder.

Obviously an easier way would be to pass unclassified information. That's not all solved.

I will say that on the cyber side, NSA is further along on sharing threat information with companies and also it's a slightly different problem set, but they also are farther along in providing actionable intelligence. NSA publishes a hunt guide that says go look for this in these files and check for these things. IT administrators can do that straightforward.

We're a ways from that working for the space domain, with the exception of -- to make this argument circular -- on the cyber side I think that is a thing that we can provide through NSA. So it just depends on that relationship. But for the specific space threat, here's a physical threat to your systems located

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in this country that you need to be aware of. We're working through that and I don't want to pretend like we've solved it.

DWG: What's going to fix the problem? Do you have enough people working on it?

ASD Plumb: Space Command through their I think CSPOC is kind of the initial, that's kind of the focal point from where to branch out, but that's not the same as saying that the way they're currently doing it is the way we need to be doing it in the future. It's going to take some time.

Moderator: I wanted to save the last minutes for a final comment, but we have time for just one more question from Jeff.

DWG: Quickly, you talked about rapidly China's advance was in the state of their capabilities. What other countries, what other adversaries, even if they're not countries, do you look at as up and coming threats in space?

ASD Plumb: Up and coming threats?

DWG: Threats or players in space in a way that they haven't been up until now.

ASD Plumb: I'm not tracking any other up and coming threats. Certainly not at the scale or speed.

As far as other space players, it's increasingly clear that most countries would, many countries would like to have a larger presence in space. So I think the question is can we work with those countries as they make that journey, both to make sure they're doing it in a safe and responsible way; and two, to understand some of the threats [inaudible].

So I don't know. Japan already flies many satellites currently. Wants to increase their presence. They've got their, I don't know exactly what it's called. National Space Strategy, that might be the right framing. But they have a whole document

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laying out how they want to approach space, what type of investment they want to make. It's going to become more commonplace.

India, clearly. Very vested interest in having a higher space presence. We are having conversations with India about how to do that.

I think a lot going on. As far as adversarial relationships I think China and Russia will remain our primary focus.

Moderator: Thanks.

Dr. Plumb, thank you for a thoughtful and thought-provoking discussion. Since you're leaving pretty soon, this is probably your last time with us in this --

ASD Plumb: First and last. Okay.

Moderator: I do want to give you the floor for any valedictory closing remarks, sir.

DWG: Well how does a guy go from being in a submarine to going into space?

ASD Plumb: Before I do those I'll just say that submarine and space are very similar. A very hostile environment on the outside, at least from [inaudible], you've got to keep the people safe inside the people tank. But I do think that, just on that, I would just say engineering comes in two flavors. One is the academic engineering, but then the other is the actual operational engineering, and submarines which I'm quite fond of provide a deep operational experience on engineering. What can kill you. Hot steam can kill you. [Inaudible] can kill you. Flooding can. But all the different things you have to learn in a submarine, on how to do all of the systems from the reactor to electricity, to the piping for the sea water, the piping for the reactor water, how the machine works to drive the -- it's an unbelievable amount of work. And the weapon systems in the

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front. And all of that is basically --

I go back to that almost every single day in my job because the technical challenges of space are technical challenges. And if you can understand technical schematics and understand technical challenges and the physics of them, whether it's space or whether it's underwater, I think that distinction is less than people might think.

I guess from a valedictory standpoint, and I'll probably say this a couple more times over the course of the next month. An honor of a lifetime to have this position. An incredible time to do it. It's always the most fun to be in something kind of in the beginning stages because you can build the record and push in the directions and then folks are going to have to come back and frankly react to what we've been doing and carry the ball forward.

But like picking up and creating a new ball like the Commercial Space Strategy is a really satisfying thing and I could not be more proud of my team. They have just done Herculean work and I think we've really moved the country in a good direction. So I've been really proud of them.

Moderator: Thanks for all you've done. I can tell you where to get this [tie].

ASD Plumb: That is awesome. Maybe I'll wear that to Space Prom next year. It's great.

Thank you, everybody it's a really nice --

Moderator: What's Space Prom?

ASD Plumb: You don't know about Space Prom? You guys aren't deep enough into this stuff. Sandra knows about it.
[Laughter].

Goddard Space Dinner, something like that.

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Moderator: Dr. Plumb, thank you for all your support. Thanks everybody for being here today. Thank you.

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