051916 Air Force Association, Reserve Officers Association and National Defense Industrial Association Capitol Hill Forum with Representative James Bridenstine, R-Okla., on "Congressional Perspectives on Space Power and Space Initiatives in the Fiscal Year 2017 National Defense Authorization Act." (For additional information on NDIA/AFA/ROA seminars contact Peter Huessy at phuessy@afa.org).

MR. PETER HUESSY: Good morning, everybody. On behalf of the Air Force Association's Mitchell Institute and General Deptula, my boss, I want to thank you for being here, and also NDIA and ROA. I also want to say hello to our distinguished guests, Major General Roger Teague, Brendan Curry with the Space Foundation, who is our occasional co-sponsor of these events, as well as my old colleague and friend Jacque Gansler, who is here. I want to welcome you. I want to also welcome our embassy folks. We have half of U.S. Air Force Space Command here this morning, which they're always welcome.

(Laughter).

Our future space events, on June 10th Congressman Schiff is going to be speaking at the Reserve Officers Association of America across the Capitol grounds, not at eight o'clock, but at 9:30 a.m. That's going to be at ROA headquarters and that invite has gone out. We have a new breakfast with former Ambassador Ron Lehman, who is going to be talking about what really happened at Reykjavik, as he was one of the top people there, as well as the history of arms control and the search for stability and assurance and extended deterrence.

Following our June breakfast on space we have one in July with Elbridge Colby. That's not going to be here, but at the Air Force headquarters on July 14th at eight o'clock. Next week, on May 23rd, and this is the first breakfast I've ever done on a Monday, but our NASA Administrator asked to do it on that day, and that is our next breakfast, on May 23rd, with the Administrator of NASA.

On the 25th Evan Montgomery from CSBA and Todd Harrison from CSIS will give us a budget rundown of both missile defense and strategic nuclear accounts. That is what our future seminar series looks like.

Today I'm honored to have Congressman Bridenstine from Oklahoma, a member of the Armed Services Committee, as our speaker. To do the honors to introduce him will be the Deputy Undersecretary of the Air Force for Space, also Director of the Principal DOD Space Adviser's staff responsible for integrating and overseeing all DOD space capabilities and activities, would you welcome our friend Winston Beauchamp?

(Applause).

MR. WINSTON BEAUCHAMP: Thanks, Peter, and thanks to everyone here for coming today. Ladies and gentlemen, it is my high honor and distinct pleasure to

introduce a true friend to the space community, Representative Jim Bridenstine. He personifies Oklahoma's motto, "Labor Omnia Vincet, which means Labor Conquers all Things, in his tireless efforts to ensure that America retains its pre-eminent place in the world in space.

In 2012 the people of Oklahoma elected Jim Bridenstine to represent Oklahoma's 1st Congressional District. He serves in the House Armed Services Committee, in the Science, Space and Technology Committee, where he was selected to serve as Chairman of the House Environment Subcommittee. Representative Bridenstine began his naval aviation career flying the E-2C Hawkeye off the USS Abraham Lincoln aircraft carrier. It was there that he flew combat missions in Iraq and Afghanistan, and gathered most of his 1,900 flight hours and 333 carrier arrested landings. While on active duty he transitioned to the F-18 Hornet and flew at the Naval Strike and Air Warfare Center, the parent command, the Top Gun.

After leaving active duty, Bridenstine returned to Tulsa to be the Executive Director of the Tulsa Air and Space Museum and Planetarium. His background includes a triple major at Rice University, and MBA from Cornell University, nine years active duty in the United States Navy, and business experience in real estate, ranching, aerospace and defense contracting. He was promoted to the rank of lieutenant commander in the U.S. Navy Reserve in 2010, flying missions in Central and South America in support of America's war on drugs. Most recently, he saw the light and transitioned to the 137th Air Refueling Wing of the Oklahoma Air National Guard where he flies with an MC-12 squadron stationed at Will Rogers World Air Force in Oklahoma City.

No stranger to the challenges of space, based upon living in what is known as tornado alley, or on the Hill, which has its own tornadoes as well, he has introduced legislation instituting a holistic approach for our national space enterprise. I will not steal his thunder by talking too much about his proposed Space Renaissance Act during his remarks, but I will say we sincerely appreciate the leadership and vision he has shown in helping to shape the path towards an integrated space enterprise. Personally, I've enjoyed our collaboration on approaches to fuel this amazing period of investment and innovation, both in government and private industry, across the space enterprise.

Representative Bridenstine, I look forward to hearing your comments this morning and to continuing our close working relationship. Ladies and gentlemen, Representative Jim Bridenstine.

(Applause).

REP. JAMES BRIDENSTINE: Thank you for that wonderful introduction, Mr. Beauchamp. You are a true leader in space yourself, and to have an intro like that from you is an honor. Thank you for that.

I also want to thank Peter Huessy and the Mitchell Institute for all of your great

work on national security issues, especially as it relates to the strategic objectives of the United States, and of course the Air Force Association and partners in the Space Group breakfast series. I've had the opportunity now -- I think this is my third time to speak here, and I'm in my fourth year in Congress. It is always a pleasure, always an honor. I learn so much from you guys that it's tremendously valuable for me to be here and be a part of this. So thank you so much for having me.

I would like to say last night, late at night, we passed the National Defense Authorization Act. I think this was the 54th year in a row -- is that right -- 54th year in a row that we have passed in the House of Representatives a National Defense Authorization Act. I believe that we will pass the NDAA in the Senate and the president will sign it yet again. Last year was a bit of a challenge, but we got it done. This is one of the areas in American government where there is strong bipartisan support, where we don't let politics get in the way of the national security interests of this country.

Winston Beauchamp, you are a part of that. You are somebody who, on both sides of the aisle, Republican and Democrats alike, can look to and say, what is the direction we need to head and how can we be helpful in making sure that the United States of America is secure? That is why the NDAA is so important and we've had great success.

Last night, when we passed the NDAA, we had some big takeaways, things where this community, the space community, was actually very effective in accomplishing important things. I want to give some examples here in a few minutes, but to start, a lot of folks in this room were involved with my office, and directly with me, as we worked to create the American Space Renaissance Act. We've been working on this for months, if not over a year at this point.

And of course, once we got this finalized we rolled it out at the symposium in Colorado Springs, which had a great reception. And again, we got a lot of feedback from a lot of people in this room. Since we've rolled it out, we've gotten even more feedback. I think that's important because what we're doing is we are accomplishing objectives that are important for national security space.

I want to be really clear, this has now proven to be an effective tool, a very effective tool. In fact, you should have received on your seats when you came in -- we have 10 provisions from the American Space Renaissance Act that actually got incorporated into the National Defense Authorization Act. So we have said from the beginning that our goal with the American Space Renaissance Act was not to submit a comprehensive bill and have it pass. Our goal is to put together the best components of space reform that are needed across the enterprise.

When I say the enterprise, I'm talking about the entire space enterprise. We're talking about civil space, national security space and commercial space, the entire enterprise. What are the best reforms that we can put into one comprehensive bill?

While a lot of these reforms are old and they're not going to pass immediately, what we can do is build consensus. That's how we started the space symposium. We got a lot of those provisions agreed to for the National Defense Authorization Act. Last night when we passed it on the floor of the House, we got these critically important 10 provisions incorporated into the bill in its final form coming out of the House of Representatives.

So we are thrilled that this community has been so effective in helping us accomplish this objective. I want to say that again, you guys have been very effective in helping us accomplish these objectives, the 10 provisions that have been adopted in the National Defense Authorization Act from the American Space Renaissance Act. So what is the American Space Renaissance Act?

It is a comprehensive bill. The goal is to divide space up into the three components that we think about it, and then ultimately look at it as a total enterprise. How do we, as a country, manage the space enterprise not in silos, not in stovepipes, but as an entire enterprise? That's what the American Space Renaissance is and what it will continue to be.

By the way, we're going to introduce it again next year. Based on the feedback we've already received, it will be different next year than it was this year, more comprehensive. A whole lot more things are coming to us. Since we introduced the bill we've had probably a dozen new ideas come to us that we think are important to incorporate into the bill.

Now again, that doesn't mean all these ideas, number one, will be incorporated into the American Space Renaissance Act, but we want to hear more ideas. If you have some, we're more than happy to entertain them. When we have opportunities to incorporate these important provisions into a must pass piece of legislation, like the National Defense Authorization Act or the FAA Reauthorization or the NASA Reauthorization or appropriation bills, that's where we're going to put these provisions. That's why this document is important.

When you think about national security space, we really had three lines of effort in the American Space Renaissance Act. Number one was to build more resilient architectures. Number two, the second line of effort, was to integrate the enterprise. Number three was to leverage commercial capabilities. Each one of those, we believed, was important for national security space.

I'm going to talk about the three priorities and specific amendments that got incorporated into the NDAA. When you think about building more resilient architectures, we have long held that it is important that when we do the next generation SATCOM AOA that we need to incorporate commercial into it. We need to know what the next generation is going to look like and we need to have a full vetting of the cost.

What is the cost of MILSATCOM? What is the cost of COMSATCOM? And we

need to have those costs not be determined necessarily by the Department of Defense, although that's where it starts, but ultimately have an outside organization without an interest, like the GAO, do an assessment of the AOA.

We were able to put that into the National Defense Authorization Act. Again, the goal here is to build more resilient architectures. Why is it important to have the AOA consider MILSATCOM and COMSATCOM in its entirety for the next generation of space communications architecture? The reason that's important is because we now have risks, and we have to distribute our architectures.

We need more resiliency. One of the ways to get more resiliency is to spread the architecture out. The quickest way to do that is to take advantage of capabilities that are already in space and to leverage the next generation technologies that commercial continues to include in their satellite systems. That's one of the important provisions that we got into the NDAA.

Our second line of effort was to integrate the enterprise. We were able to put into the NDAA the full funding of Space Command's Enterprise Ground Service. This is an initiative to standardize telemetry, tracking and control for both hardware and software across ground systems.

Why is this important? Of course, I've heard General Hyten talk about this a lot, especially lately. The idea here is when you think about SBIRS, when you think about AEHF, GPS and our weather satellites, we need common ground architectures.

That doesn't mean that they're all going to be tied together, but we need standard interfaces. We need standards so that ultimately the operator using the system doesn't necessarily have to get six months-worth of training to go from a SBIRS system to an AEHF system or to a GPS system. The idea is, it makes it more interoperable where you can use manpower from one place to the other. It also enables us to eventually, when the time is right, commercialize those operations so that the satellite control network and other things are not going to necessarily have to be manned by military personnel wearing uniforms.

Why is that important? Well, as a Navy pilot and now as an Air Force pilot, I can attest that the important things that we talk about are desired effects. Our war fighters need to be focused on desired effects.

I'll just give a quick example. When you have a surface to air missile, we as military pilots want to kill the surface to air missile. Sometimes you launch a HARM downrange and the idea is you want to kill it, but ultimately they can turn off the radar. And, of course, this is older technology and the HARM could lose its tracking, its guidance, and it could fall in the desert.

But here's the important point. In order for that to happen the enemy had to turn off his radar. So even though you didn't get the kill you were looking for, you had the

desired effect. It was a soft kill.

We need our war fighters, the people that fight our wars -- and by the way, wars are moving into space, that is happening and I think everybody in this room is aware of that -- we need our war fighters focused on desired effects. We need our war fighters focused on, if there's jamming, if there's spoofing, if there's some kind of kinetic threat to our space systems, the war fighters need to be available to fight and win that war in space, and not necessarily focused on routine tasking that we can outsource and commercialize. That is the importance of integrating the enterprise. It is why the Enterprise Ground Services are so important, and we got that fully funded in the National Defense Authorization Act.

The third line of effort on the national security space side of the American Space Renaissance Act was to leverage commercial capabilities. Again, we're trying to build more resilient architectures. You mentioned being from Oklahoma, we deal a lot with tornadoes and terrible weather. One of the areas that I focused on as a member of the Science Committee -- I chair the Subcommittee on the Environment within the Science Committee -- is how do we predict tornadoes?

How do we predict severe thunderstorms better? How do we give my constituents more lead time when there is a severe thunderstorm or when there is a tornado? Right now the average lead time is 13 minutes. One of the challenges that we've had is that the systems that we have are government owned and government operated systems. That includes the DOD systems, the DMSP program, and also the civil programs, JPSS and GOES.

I want to be really clear, and I've said this over and over again. Nobody cares more about those programs than the guy whose constituents are hit by tornadoes. I don't want to cannibalize in any way those programs. There needs to be a government backbone and there will be a government backbone.

But I will also tell you that in the effort to build resilience into our systems, we need commercial operations to co-exist with the government systems. So when commercial operators are launching technologies like GPS radio occultation, or hyper spectral sensing, I believe it is important that our civil authorities and our military be willing to step forward and purchase that data. Why? Because once again, by taking advantage of commercial data, we immediately distribute the architecture.

If we buy data from a robust commercial segment, then we will have possibly half a dozen, maybe more, commercial operators with constellations in space providing data, in addition to the government owned and operated systems. The benefit of commercial is this, they're not launching satellites into space to serve a government customer. They're launching satellites into space to serve -- well, when you come from Oklahoma they're serving the energy industry. They're serving the transportation industry. They're serving agriculture, and of course, the insurance industry.

So these systems, I believe, are going to get launched regardless. The question is, what does the Department of Defense do, what does NOAA do, when these systems are launched? I believe we should be buying that data.

So we initiated a weather bill that passed the House of Representatives. Again, a lot of people in this room have been helpful in helping us accomplish these objectives and we've been effective for my state of Oklahoma. But what it did is it created a pilot program where now NOAA is putting forth a package to buy commercial weather data to feed the numerical weather models.

Right now we're going through a process to buy the data and eventually test and evaluate it in the model. That's a critically important first step. We put in the National Defense Authorization Act a very similar provision where Air Force Space Weather would purchase data from commercial operators as well.

So again, leveraging commercial capabilities distributes the architecture, complicates the targeting solution for the enemy, and provides us more resiliency. That's the goal here, and ultimately we were able to put that into the National Defense Authorization Act. I will say, in my estimation, we need to do more in this area, but we got it started and I think that's an important first step.

We also had in the bill $30 million for the Section 1605 SATCOM pilot program to experiment with commercial SATCOM technology and services which offer orders of magnitude increases in capability and/or decreases in cost, which I think is important when you think about the generational leaps that we're seeing from commercial operators in the SATCOM realm today. Some of the ideas -- and I've run these by Mr. Beauchamp -- some of the ideas are we could use this money to test and evaluate multi-band terminals on systems that right now don't have multi-band terminals, and determine if there's a way to go forward with those programs. We could use that money for the purpose of testing and evaluating high throughput satellites and using different parts of the electromagnetic spectrum.

These are all things that we believe are important, again to provide more resiliency, and when you think about high throughput satellites and the multiple spot beams and how it again complicates the targeting solution of our enemies because you're distributing architectures, but also because spot beams are more difficult to jam. So these are important provisions that I believe are critical for national security. Because of the folks in this room we put these provisions in the American Space Renaissance Act and we got these provisions into the National Defense Authorization Act, which is a must pass piece of legislation. I believe that it will pass and the president will sign it into law.

With that, I would like to open it up for questions and allow you guys to provide feedback.

(Applause).

MR. PAT HOST: Hi, Congressman, Pat Host from Defense Daily. I was wondering if you've taken a stand on the excess ICBM motor issue?

REP. BRIDENSTINE: We did not in the American Space Renaissance Act, take a position on that. What I will tell you, and I've said this publicly on various occasions, there has to be an approach where those motors would be available, but at the same time we don't cannibalize or damage the very important venture class launch services providers that are just now getting off the ground. A lot of money has been invested. A lot of people have been assured that this program was not going to change, and based on that made investments. Pulling the rug would be, I think, problematic.

But I will also tell you that these rocket motors need to be put to work. I think there is an elegant solution, not an easy solutions but an elegant one, where the Department of Defense can set the price for what those motors would be that would be fair and not cannibalize the venture class services programs that are underway right now. There are other ideas.

We hear regularly that if we use these ICBM rocket motors that ultimately it will serve a function that is currently not being served. We're talking about payloads between 400 and 1,500 kilograms, maybe 400 and 2,000 kilograms. There is no rocket providing that kind of service domestically in the United States right now, so this would serve a new function.

The challenge is, once you say that then people start aggregating payloads. So if you have a 2,000 kilogram payload capability and you put 10 200 kilogram satellites on there, now you're going into that venture class capability where people have been assured that we wouldn't have the government competing necessarily against the private sector. So I think when you set the cost on those rocket motors, I think that's an important thing. I also think that when you think about aggregating payloads that might be another solution. Maybe we ought not aggregate payloads when we sell those rocket motors.

But I will tell you two things. Number one, we don't want to damage -- and by the way, the people who have an interest in this also don't want to damage the venture class rocket service providers that are right now getting off the ground. So there's an elegant solutions here that needs to be had. We didn't weigh in on that in the American Space Renaissance Act. There are plenty of members of Congress that are focused on that. What we're trying to focus on are areas where other members of Congress, quite frankly, aren't paying attention and we're trying to raise awareness.

Thank you.

MR. : Do you have a partner in the Senate that's offering similar legislation to what you have in the Renaissance Act, sir?

REP. BRIDENSTINE: That's a great question. The question was, do I have a partner in the Senate that's offering similar legislation to what we're doing in the

American Space Renaissance Act? At this point we don't. That doesn't mean we won't.

We just rolled out this bill about a month ago. So the answer is yes, we think we can and we think we will. But again, this is comprehensive legislation and a lot of these issues are very technical and it takes time for members of Congress or the Senate to get comfortable with some of them. So it's not going to happen overnight and I'm just giving you my best assessment.

MS. : In an earlier version of the bill there was some language that it would transfer some of the Air Force's weather missions to NRO. Did that stay in the bill and is it something you support?

REP. BRIDENSTINE: It did and I do. One of the challenges we have when you think about the top two weather requirements by the Department of Defense, you've got cloud characterization and theater weather imagery. Right now, we need a solution for that.

The solution that we have heard from the Department of Defense -- and I'm speaking as Congress -- the solution we've heard is we're going to take advantage of international partners. For a lot of members of Congress, and I am one of many, that's not a good solution. We have seen recently with EUMETSAT 7 that we were not able to accomplish the objective of taking advantage of international partners as it relates to cloud characterization in the Middle East, which is critically important. As somebody who takes off and lands on aircraft carriers, I can tell you that is critically important.

Members of Congress made a decision that, what if we just transferred this to NRO and allowed them to develop those requirements and then ultimately transfer them to the Air Force? And by the way, this is not new, that's how DMSP was created. So this is not an unusual thing, but it is, I think, something that is worth considering. We put it in the House bill and it stayed and last night it passed.

MR. BRIAN WEEDEN: Brian Weeden, Secure World Foundation. You talked about resilience and leveraging commercial COMSpOC with SATCOM, sensing and weather. I was wondering what your thoughts of Congress are on doing the same with space situational awareness, which is an important issue for DOD? We see a lot of private sector investment, but there's still that kind of tension between what really is the role of the government and the private sector on it.

REP. BRIDENSTINE: That's a great question. Of course, the Secure World Foundation has been a leader on this issue and thank you for all your great scholarly research and reporting. I will tell you the answer is right now we have a space situational awareness challenge. It's being met, of course, mostly with government systems and capabilities, but that's not always going to be the case.

Great companies like AGI are now providing services not only to the Department of Defense but to commercial operators. And they're providing those services not

because the commercial operators are trying to do a good thing, they want the assurance. They want to know that their satellite isn't going to hit anything else.

So there is a market for commercial operators to take advantage of commercial space situational awareness. That's happening. It's happening whether the government likes it or not.

I believe it's a good thing. It's going to give us the ability to know more about what the activities are in space. You've heard me talk frequently about the threats that we face in space. Those threats are very real. We need to continue to increase space situational awareness.

There will always be DOD space situational awareness. I don't think anybody in this room would suggest otherwise. But we also need to make sure that -- in my estimation the reason that DOD does it, they don't just do it for the DOD, they do it for the entire world. They do it for free and they do it for commercial operators for free as well. They do it because they are historically the only ones who had all the sensors all over the world and the only ones that had the software to do the conjunction analysis and reporting.

Now we've gotten to a new era where space is not just the purview of governments. It's not just the Soviet Union and the United States, but it's every country on Earth wants a space program now and commercial operators are launching items into space in volumes that we've not seen before. People would argue we still haven't seen it, but investments are being made. Launches are coming.

We're going to be seeing satellite constellations of hundreds if not thousands being launched in the next decade. We have already heard from not only NASA but other state's agencies throughout the world, five other space agencies, that in critical orbital regimes from 700 to 900 kilometers, we have already hit something called the Kessler Syndrome, the Kessler Effect, which means that even if we don't increase launch frequency, even if we don't increase the number of satellites that are being put into space, we will continue to see the orbital debris field grow. The same folks that put these studies together also say that on average every five to nine years we will see a massive collision like the Iridium-Cosmos collision that we saw in 2009. No offense to Iridium, I love you guys.

(Laughter).

MR. : We were innocent.

(Laughter).

REP. BRIDENSTINE: But we will continue to see these kinds of things. So, how do we mitigate this risk? Well, there are technologies and capabilities that I believe are important to extend the life of satellites. So that's a mitigation technique so that we don't

have dead satellites that are putting other satellites at risk. The orbital debris field is eventually, if we don't get things under control, we're going to need remediation capabilities.

That is going to be a big lift. That's where we're going to have a hard time finding commercial operators willing to step up and do that job. So there will be government involvement there for sure. But I will also tell you that if we do nothing in that realm commercial operations will also cease to exist so long as we do nothing.

Space is important. It's so important to the way that we live: the way we communicate, the way we navigate, the way we produce food and energy, the way we conduct national security, of course even banking, the way we pump gas for our gas tanks. Space is important and it is at risk.

I will tell you, and you're aware of this, the Chinese and the Russians are launching things into space that we could see as potentially harmful. At the same time, we're also seeing the Chinese and the Russians build the BeiDou system and the GLONASS system. They don't want to be dependent on the United States for GPS signals. They're also launching or testing direct ascent anti-satellite missiles and co-orbital anti-satellite capabilities, potentially.

So we have to improve space situational awareness. I believe there is a strong case to be made that in this particular arena commercial operations should be involved. The number one thing we need to do is make sure that the JICSpOC and the JSPOC -- and let me just talk about the JSPOC for a second.

Again, I said they do all of these things because by default they're the only ones that have ever done it. If we could transfer that data, and I'm not talking about classified data, but transfer a lot of that data to a civil authority that could take advantage of commercial operators that are capable of providing their own data -- so now you've got the DOD data, unclassified DOD data, plus you've got civil data -- you've got people like AGI with the COMSpOC and the Space Data Association, blend all of this data together,

Of course we've got a data problem. We're going to need more data but we also have to be able to assimilate the data, and also have a civil authority that can do something when they do see a conjunction about to occur. So these are all things that I think are important.

It's not going to happen overnight, but there are areas that we can build consensus on. Doing a pilot program, for example, to determine if these are possible, will be the first step. I think it's important and commercial operators are already doing it, and the U.S. government needs to take advantage of that.

MR. : I'd like to compliment you on the recognition of the importance of civil-military-industrial integration. The concept, as you presented it of both the data and the systems, and even the subsystems, being integrated I think is, as you point out, a big cost

saving. Therefore, one of the things that I make a suggestion about is that you might want to look at barriers to doing that which currently exist, like the Code of Federal Regulations, 186,000 pages and Congress keeps adding to that about 2,000 pages a year. It would be appropriate to have another Packard Commission to have a look at those regulations, and Congress can certainly take the lead in that area.

REP. BRIDENSTINE: That sounds like a phenomenal idea. Certainly maybe that's an idea for the American Space Renaissance Act. I would also say the reason it's important -- when you think about the world today and you think about space, there will be soon somebody who sets up a transmitter incorrectly and it somehow interferes with an American national security satellite, or a commercial satellite that we use for national security purposes. That will happen. There's not a question. It has happened. It happens all the time and will happen again.

Right now we've got these war fighters in uniform that are trying to determine whether or not somebody set a transmitter accidentally incorrectly. That is not the appropriate role for the people who should be fighting and winning wars. So we've got to take advantage of commercial capabilities and make sure that when commercial operators see these kinds of things we bring it into our system.

Quite frankly, that's why we have the commercial integration satellites at JSPOC. Commercial operators are very good at determining, geo-locating, where that jamming, where that interference is coming from. Then we need the DOD to get involved and say, let's attribute that. Is it an accident or is it hostile? That's where the war fighter should come in.

But the idea that every time there's interference somewhere in the world that war fighters need to be figuring out if somebody accidentally set up a transmitter incorrectly, that's an inappropriate use of our forces when we have very real threats. Commercial operations can do that, and that's why we need to have that kind of integration. And commercial operators are doing that. That's why we need this integration.

More questions? I don't have the hook yet.

(Laughter).

MS. TESS AILSHIRE (?): I'm Tess Ailshire from Air Force Magazine. I was wondering if you could talk a little bit about some of the parts of the American Space Renaissance Act that haven't passed yet but that you think are really important to try to pass soon? I know there are some things that you want to have eventually, but what are some of the things you want to try to get passed quickly?

REP. BRIDENSTINE: Absolutely. Some of the things -- when you think about -- NASA recently created a venture class launch services program, and I think that's a great idea. It's needed. Even today our commercial operators -- you hear the National Geospatial Intelligence Agency, the NGA, they've got a commercial policy now, a

commercial space policy. The same with NOAA, has a commercial space policy. And of course, when it comes to communications, the DOD is already taking advantage of commercial in a very robust way.

When you think about communications in the future, it's not all going to be very large geostationary communications satellites. You've got OneWeb and Space-X that are creating constellations for low-Earth orbit. Some would argue that those are technologically challenging, but I believe that there's going to come a day when we have these kind of mass production capabilities for satellites for communications that will be in low-Earth orbit.

The question is this, how do we re-constitute those constellations; whether it's remote sensing and imaging for NGA, whether it's weather data for NOAA or whether it's weather data for the DOD, or communications in low-Earth orbit, which is coming? How do we re-constitute those constellations? I believe it's important to have a venture class launch services program in the United States so that when these folks launch we're not launching on Russian Npr rockets and we're not launching on Proton rockets.

It wasn't too long ago that the head of RusCosmos did a story in "Aviation Week and Space Technology" and he flat out admitted that they're using foreign launches of satellites and astronauts to finance their constellation for remote sensing and imagery and their constellation for communications. So when we launch on Russian rockets, whether it's commercial or military -- and we're going to have a lot of launches on Russian rockets in the future -- that, in essence, is building the capability. And he even called it -- it's off balance sheet financing. He said, we will finance these programs by launching foreign astronauts and foreign satellites. He's talking about our astronauts and our satellites.

So I believe it's important that we have a venture class launch services program. We believe -- we put that in the National Space Renaissance Act. We modeled it after what NASA did. In fact, we kind of got a pretty good important provision in the NDAA this year which is for operationally responsive space, the ORS Office. It added $20 million and our concept is let's have them be responsible for figuring out how do we advance this venture class launch services program.

So while it wasn't a mirror image of what we wanted to do, we got a good chunk of it done. And again, we've always said our goal is to build consensus. Where we can get consensus we want to get those things passed. This is another great example of where we have been effective in accomplishing things for the national security of our country.

On the civil space side of things -- and of course this isn't necessarily where the people in this room are focused -- but we got a report recently, the Mitch Daniels report, that included a bipartisan commission, and it flat-out said that given the current investments and strategies we will never go to Mars. Well I'm on the Science Committee, I'm on the Subcommittee on Space. We had not heard that from anybody in the administration. We've always been told we're going to Mars in the 2030s. We're

going to Mars in the 2030s. Well here comes this commission report in 2014, two years ago, and it says under no circumstances will we ever go to Mars. Not that we're going to delay it for 10 years or we're 20 years behind, but we will never go to Mars, which means we've been, at worst, lied to, but at best everybody has been wrong.

So this is a huge challenge. I believe Mars ought to be the horizon goal for our manned space program. But I believe we need to be told the truth over what we need to do to make that happen. So I think we've got to get a realistic assessment.

Of course, that on the civil side, I think is important. And on the civil side we want to continue to see more funding for commercial remote sensing for weather, GPS radio occultation and hyper spectral sensing data that can feed the numerical weather models that can help us move to a day where we have zero deaths from tornadoes. For the guy from Oklahoma, that is the number one over-riding issue for me. I want Oklahoma to have zero deaths from tornadoes, and I believe that we can get there. I believe that technologies exist, we've just to make it happen.

MR. HUESSY: How do you see the resolution between the HASC and SASC in terms of how you funded both the base force and the OCO? Given the services comments that are O&M and readiness and capabilities are deteriorating markedly. We need the money, and we can always get it back. Second, is it true that the administration, when they submitted the budget, broke the October budget agreement in terms of the total amount of money that they proposed for defense?

REP. BRIDENSTINE: Peter bring up an important point about now there's a disagreement between the HASC and the SASC about OCO funding and base budgeting. And of course all this played out yesterday in the debate for the National Defense Authorization Act. The question was, how do I see that unfolding?

I'm going to tell you, I'm done trying to predict these things. It's clearly an issue and it shouldn't be. It should always be a bipartisan kind of bill and it has now turned partisan. I will tell you this. I'm a conservative Republican and I ran for Congress against an incumbent Republican who voted for the Budget Control Act, which resulted in the defense sequester. The defense sequester was supposed to be so bad that it would never happen, and that members of Congress would have to come to an agreement. That's what it was designed for. It was a terrible idea. And then they put 12 members of Congress on this super committee to make the decisions: six Republicans and six Democrats. That's going to work out.

(Laughter).

And none of them were from Oklahoma, my state, and then they failed and all of a sudden we're triggering the sequester, which is absolutely devastating for the Department of Defense. Now, OCO is not optimum. We don't want OCO to go forward forever and ever. It's not optimum.

But my goodness, what is worse, eliminating it while we've got troops deployed, while we've got more threats than this country has ever seen, while we've got base requirements and we've got overseas contingency operation requirements? By the way, I liked it better when it was called Global War on Terror rather than overseas contingency operations. But at the end of the day, we need to fund the Department of Defense and we need to be able to fight and win wars.

Having these squabbles over whether it's base budgeting or OCO budgeting, it is important but overwhelmingly we've got to get the bill passed and we've got to fund things that need to be funded. We can't play politics with the national security of this country. There was an agreement. We need to stick to that and not play politics with the national security of this nation.

So as far as what the Senate is going to do, I don't know. But I will tell you, we've got to pass the NDAA. The president needs to sign it. I believe at the end of the day, that will happen.

MR. HUESSY: In early June we're having a conference in the Czech Republic at the Prague Security Institute with the Secure Foundation. The theme is, what are the threats to America's military and commercial space assets from our enemies? I know you can get classified very quickly, but in order to get the American people to understand this we have to talk about it.

REP. BRIDENSTINE: You bet.

MR. HUESSY: Could you give us kind of your sense from what our intelligence people -- what you can say openly -- about what are the threats that we really need to be concerned about? I hear others saying the Russians or the Chinese or the North Koreans won't do anything because they'll shut down their own space assets. If you hit one, you hit everything. I wondered if you could just address that for a couple of minutes.

REP. BRIDENSTINE: The question is about the threats to national security space, if you will, from not only our competitors in the world and potentially our adversaries, but others, other non-state actors. We have a lot of threats. And, of course, there are rogue nations like North Korea and Iran that are launching things into space now.

These are very real. We have to deal with them. I'll talk about some of the threats that have been reported in public.

Everybody is aware that the Chinese in 2007 shot down one of their own weather satellites, creating 5,000 pieces of orbital debris, but they demonstrated that they could do a direct ascent anti-satellite launch and be effective. That got everybody's attention not only because of what they were able to accomplish, but also because it created 5,000 pieces of orbital debris. Every single one of those pieces is now a missile hazard for our systems, so that's hugely problematic.

Since then, they have -- even since I've been here in Congress -- they have tested direct ascent anti-satellite missiles to higher Earth orbits, almost to geostationary orbit. Why is that important? Well, that's where our SBIRS satellites are. That's where our AEHF satellites are. So when it comes to early warning and nuclear command and control, that's a threat to the United States.

Now they've said they were just doing tests. Well, good, that's a test, of what? Or, they were doing experiments. But that's not an excuse. This is provocative behavior. They knew it was provocative when they did it and they did it anyway.

So these are real concerns that we have to be aware of and focused on. We have seen not only the Chinese do the direct ascent, but they've also done their low Earth orbit co-orbital operations. We've seen that from the Russians as well. All this has been very publicly disclosed and written about in the media.

We have seen in geostationary orbit this Russian Luch satellite maneuver from one geostationary satellite to another geostationary satellite for whatever it does. And by the way, the first time I heard about this was from a commercial space situational awareness operator. So that shows you the advantage of having commercial space situational awareness. This Luch satellite is going from one satellite to another in geostationary orbit. So we need to have situational awareness on these kinds of activities.

On top of all that, you've got every nation on the planet now seeking to have some kind of jamming capability, some kind of spoofing capability, directed energy capabilities. The capabilities are increasing, the costs are coming down, and not only rogue nations but nongovernmental actors are going to be able to delve into these areas. So all of this is very serious. It's why we need to make sure when we improve our architectures with commercial, we're including commercial in the AOA ahead of time.

That's why we got this language for the analysis of alternatives for the next generation SATCOM analysis of alternatives. We want commercial at the table in the development of the next generation constellation. Do we want a government backbone? Absolutely. But commercial needs to be able to integrate with those government systems. We need to have anti-jam capabilities, we need to have encryption capabilities, even on our commercial systems, so that when the time is right we can take advantage of that.

When it comes to the Pathfinder program that I think is important, that SMC has initiated, we got that fully funded in the NDAA. That was part of the American Space Renaissance Act. The Pathfinder program, of course, buying a transponder on a commercial satellite and then trading that transponder for a global portable bandwidth, again distributes the architecture, improves resiliency, integrates commercial, all those things that we want to achieve are included in that.

Going back to the threats, we saw in 2014 the Chinese hacked into the National

Weather Service. Now is it attributable to the Chinese? Well, Chairman Frank Wolf said it on the floor of the House of Representatives. It has been reported in the media as that. When they hacked into the National Weather Service they compelled the National Weather Service to shut down ground stations that prevented us from being able to use weather data. That affected my constituents in Oklahoma, not because we had any severe weather activity, but we could have.

So again, the way we fight and win wars is information dominance. It is no different today than it was 100 or 200 years ago. You win wars with information dominance. That's what space and cyberspace represent. That's why these issues are so important.

So again, when you're hacking the National Weather Service and you're compelling things that deny us access to our own systems in space, we need to make sure that we are doing what is necessary to prevent that kind of activity from happening. I think we can build more resilient architectures and we can distribute our architectures, and that's what the American Space Renaissance Act has in its national security space provisions, and we got a lot of that done in the National Defense Authorization Act.

I want to thank everybody here, because we were able to get this done because of you. We demonstrated effectiveness because of you. A lot of you guys talk to members of Congress about how important these things are. I appreciate you being willing to step up and make these things happen for the best interest of our country, and there's more to come. So thank you all so much.

MR. HUESSY: Thank you.

(Applause).

I want to thank the Congressman for -- that was almost 30 minutes of Q&A, extraordinarily well done. Winston, thank you for your wonderful introduction to the Congressman. General Teague, thank you for your support for the series. Thank you to our sponsors without which we cannot do this.

Thank you, sir, very much, Jim, for all your work with the Congressmen and with the space community. I thank our military officers and the folks who go in harm's way. Thank you for your service. Thank you to our international partners here and our guests from Capitol Hill.

Thank you, Jim, very much. On behalf of AFA, NDIA and ROA, thank you for an extraordinary presentation.

REP. BRIDENSTINE: Thank you.

(Applause).