

020317 Air Force Association Mitchell Institute for Aerospace Studies Air Power to the Warfighter Seminar with Air Force Chief of Staff General Goldstein

MR. PETER HUESSY: Good morning, everybody. On behalf of the Mitchell Institute and the AFA, NDIA and ROA, I want to thank you. My name is Peter Huessy and this is the inaugural seminar of our fourth year of our Space Power to the Warfighter series. I want to welcome you all here, and in particular our Chief of Staff of the Air Force.

I also want to say a special hello to Congressman Jim Bridenstine, Congressman Jim Cooper, and our Chairman Mike Rogers, who is here today; as well as acknowledge our friends General Teague and General Horner and General Basham (ph), as well as our former Chief of Staff of the United States Air Force, General Fogelman, who stood at this podium I think six times during my seminar series over the last 30 years. It is nice to see him again. Also, the former Secretary of the Air Force Whit Peters (ph) is here today. Thank you, sir, for being here. He is also, as you know, the Chairman of our Board at AFA.

Our next breakfast is March 2<sup>nd</sup> with General Hyten, and then we're going to have one on the 31<sup>st</sup> with General Buck, and then also a special event on the 30<sup>th</sup> on space policy, which we'll get you. Our nuclear series begins April 20<sup>th</sup> with Steve Blank and Mark Schneider. On April 10<sup>th</sup> and 11, in Crane, Indiana, we have our first triad event of the year.

I want to thank particularly the wonderful staff that I work with at Mitchell, particularly Abby and Nicole and General Deptula, who will be introducing the Chief. I also want to thank my partner, Kath Ryan, and my other boss, Doug Merkey (ph), who does really good work at Mitchell. I want to thank all of them.

For those of you who are not on our mailing list, make sure you get on it so we can get you invites. I wanted to thank all of the people who make this possible from the Chief's office. Thank you very much. With that, I'd like to introduce my boss, the dean of the Mitchell Institute, General Dave Deptula.

(Applause).

GEN. DAVID DEPTULA: Good morning, ladies and gentlemen. Let me offer my welcome to each and every one of you. You all have come here to hear the 21<sup>st</sup> Air Force Chief of Staff, so I'm not going to spend too much of his time introducing him. What I would like to mention is that while General Goldstein is currently the Air Force Chief of Staff, he's an expert joint war fighter having effectively employed joint air, space and cyber forces in the execution of joint force operations in the Mideast. Then he returned to the Pentagon to direct the Joint Staff before moving on to top leadership positions in the Air Force.

Today you're going to hear his perspectives about space, a domain that is pervasive in the successful execution of every combatant commands' operations, as well as our nations', and indeed the world's economies. So Goldstein has a preponderance of responsibility and oversight for the health, well-being and viability of our space infrastructure, as the Air Force is the primary custodian of America's space-based military capabilities. So without further ado, please join me in welcoming General Goldstein to the podium.

(Applause).

GEN. GOLDSTEIN: Thanks, Dave, and good morning, everybody. Or as they say in my home state of Texas, howdy. It really is an honor to be with you and I want to thank Dave and the Mitchell Institute for hosting this Space breakfast series. The dialogue was really captivating in 2016 and I can't tell you how honored I am to kick it off in 2017.

The timing couldn't be better. For one, I just returned this week from a trip to Vandenberg and Los Angeles Air Force Base where I met with our leaders and warriors from 14<sup>th</sup> Air Force Space and Missile Systems Center and our industry partners, and I'm eager to provide you a trip report. This September marks the 35<sup>th</sup> anniversary of Air Force Space Command. In those 35 years we've formed the command and led the integration of space into everything we do, including leading the joint war fighting integration of space across all domains and missions. So it's perfect timing to kickoff 2017 with perhaps the most important debate we will have this year, the future of space.

General Rogers, Congressman Cooper, Congressman Bridenstine, I want to thank you for your personal interest and your passion for this critical joint war fighting domain. The series of hearings that you have had, and will have, are absolutely critical. And I hope you'll include me, as the leader of the service with the responsibility for organizing, training and equipping and presenting ready space forces to a combatant commander, in those important discussions.

Whether you're here this morning representing Congress or industry, allied partners or academia, or one of my fellow joint chiefs, I want you to know a couple of things up front. First, I'm grateful, because providing a safe, secure, reliable nuclear deterrent, defending our homeland, assuring allies and partners, and defeating our enemies, is a team sport. So I appreciate the importance of all of us working together.

Second, I want to be candid and tell you when it comes to space, be confident in your Air Force. We've been the stewards of this domain since 1954, and as the 21<sup>st</sup> Chief of Staff in the 21<sup>st</sup> century, I can assure you we'll remain passionate and unrelenting in our stewardship for the next 53 years and beyond.

I started my trip this week on Sunday at Vandenberg and spent the day with Lieutenant General Dave Buck and his warriors from 14<sup>th</sup> Air Force. Dave has two bosses. He reports to me through General Jay Raymond at Air Force Space Command in

my organize, train and equip role; and he reports to General John Hyten at U.S. Strategic Command, as his component commander for space operations. He is our nation's lead war fighter for space.

By the way, this is exactly the way I reported as the air component commander in Central Command, working for General Mattis at the time. I reported to the Chief of Staff through my boss at Air Combat Command, and to the combatant commander as his lead airman. Dave and his team of joint warriors provide our war fighters with unfailing support from optimizing constellations to cataloging and tracking over 23,000 objects in space. I saw the benefits of this first-hand as the CFAC (ph).

I spent Monday with the 30<sup>th</sup> Space Wing and toured the incredible facilities there. When it comes to space launch and ICBM test architecture, this place, the Western Range infrastructure, is truly a national treasure. During the tour I was able to see an Atlas V rocket preparing for launch, and I met the leadership of United Launch Alliance, who have successfully launched now over 160 national security payloads into orbit.

I also met a young airman at the site, a dirt dog from a civil engineering squadron. You know the type: 6'3", arms as big as my legs, square jaw. He told me what it was like to drive his bulldozer into flames that top 40 feet all around him as he built a fire break saving a rocket worth hundreds of millions, and launch infrastructure worth billions, with a bulldozer.

Can I repeat that? He drove into the flames. I will tell you, until seeing the extent of the fire zone that we had last September, I had no idea how close we all came to a national disaster, and how heroic our 30<sup>th</sup> Space Wing airmen, and the over 1,200 firefighters who rallied at Vandenberg, were on that day.

I also got to visit the schoolhouse, where our newest airmen are training to become space operators, and see the instructors; imparting 54 years of knowledge on our newest warriors. I have to admit, my degree in philosophy at the academy started to show itself when compared to the scary smart airmen that I met there.

(Laughter).

From Vandenberg I traveled to Los Angeles, the home of our Space and Missile Systems Center, under the steady leadership of Lieutenant General Sam Greaves. Sam and his team walked me through every one of our acquisition programs, from military satellite communications to nuclear command and control to intelligence gathering to position, navigation and timing. That's an amazing inventory, and over 90 percent of what DOD has in space is Air Force.

Let me repeat that. Over 90 percent of what DOD has in space is Air Force. We will own the high ground and we will use it to win the fight.

It's extraordinary, actually. I don't think anyone would trade our space

capabilities with any other nation on the planet. We have achieved this with our industry partners despite eight years of continuing resolutions and single year budgets we're forced to execute in the last half of every year.

On Wednesday, I spent the day walking the floor of SpaceX and Boeing to put some eyes on the newest technology on the planet. I have to say, walking those floors made me proud to be an American, let alone Chief of Staff of the greatest Air Force on the planet. At SpaceX they have a vision. They're going to Mars, and I believe they're going to do it.

As an airman, I love it. It speaks to me. It's in our bloodline. Mars? Bring it. We've been breaking barriers since 1947.

At Boeing, I saw the most sophisticated satellites our nation has ever produced. In one room a technician was on a tall ladder working on a satellite and fastening cables to the =I. I don't know why, but that scene just struck me. There was something very human about that moment in a lab full of sophisticated machines: a master craftsman, meticulous to the final detail.

So ladies and gentlemen, I stand here today as Chief of Staff, in awe of our space warriors and industry partners, and enormously proud of our achievements. As the stewards of this critically important domain, rest assured the spirit of Benny Schraever (ph) is alive and well in the =u Air Force. This brings me to a war story.

General Deptula taught me that the rule for war stories, of course, is they only need to be 10 percent true, but I swear this one is legit. It took place just a few weeks ago in early January. We had a remotely piloted aircraft, an MQ-9, and it was flying an armed reconnaissance mission over Iraq, when it reports some satellite communications, or SATCOM, interference affecting its ability to carry out the mission.

Previously we might have scratched our heads, trouble-shot the issue from afar, maybe done a control-alt-delete, and worked our way through it, but not this time. This time a report went straight to the floor of the Combined Air Operations Center, my old headquarters at Al-Udaid (ph) where we have a space team integrated into the mix. The report basically says, SATCOM is getting interfered with, be advised.

So we get this report and feed it to the space operators. Why? Because today we prioritize SATCOM-linked monitoring as a combatant commander priority, with our CFAC (ph) that serves as the space coordinating authority. So the team senses it and starts working a solution, literally within a minute.

We called these SATCOM interferences offending signals. We find it, we characterize it, and we track it back to its source by a two person team of airmen. They take this offending signal, use our tactics, techniques, procedures, and continue the mission while General Bucks Joint Space Operations Center at Vandenberg identifies the offending party. It turns out this time the offending signal came from a coalition partner

that had their equipment configured wrong. Because the CAOC space team has been building partnership capacity, they're able to turn to that nation's liaison on the ops floor of the CAOC and say hey, knock it off.

And then we taught those partners how to reconfigure and validate their settings, keeping it from happening again. Just six months ago this would have taken days, maybe even weeks, to sense, ID, track and resolve; or said another way, find, fix and finish. But using the integration of space teams into the ops floor, and by using our tactics, and by building relationships with joint and allied space partners, we cracked the code in minutes, within the mission carry-on.

It means we're eight times faster now at how we identify and characterize interfering signals. We've gone three consecutive months now without a mission abort due to interference. And that two person team that found the offending signal, one was an airman who graduated from high school 18 months ago.

So while we're doing great things in space, there's always room to get better, and we can never get complacent in this domain which remains a harsh and unforgiving environment. This year we're celebrating 70 years as a service, with decades of intense learning and adaptation in the air domain. So we're taking what we've learned over the past 54 years about space and applying the same disciplined approach toward getting better.

Our vision is to first normalize space operations as a joint war fighting domain no different than any other war fighting domain. Only when we think about and talk about space in the same way we talk about operations in the air, on land, at sea, or in cyber, will we move in the direction of truly integrating space operations across all war fighting domains; because the opposite of integration is separation, which moves us in exactly the wrong direction as a joint team.

We cannot allow space to have its own unique lexicon with its own unique (ORD chart ?), with its own unique force or its own unique way of operating. We'll be hard pressed to find a mission the joint force performs that is not heavily reliant on the integration of space capabilities. So in my opinion, space is a joint war fighting domain that we must normalize and think about no differently than any other domain in which we operate.

As a point of clarification, there really is no such thing as war in space, it's just war. But war can extend into space, and it isn't a stretch to imagine how a terrestrial conflict can migrate to space. Our adversaries can now offensively threaten our space assets, as we saw when China launched an anti-satellite missile years ago, creating a debris field every nation will contend with for all time.

But it doesn't mean we have to respond in-kind. We can respond in a host of different ways. As the Joint Chief responsible for organizing, training and equipping and presenting ready forces to combatant commanders, I believe it's my job to ensure that we

maintain resiliency and options for the joint force and for the commander-in-chief. An attack can affect the way all kinds of things work: cell phones, gas pumps, ATMs, traffic lights, precision navigation on air, land or at sea, three billion worldwide GPS users and countless commercial assets. I'm actually thinking of starting a new information campaign: send a tweet, thank an airman.

(Laughter).

You heard it here first at AFA. Air Force operated space-based systems cast a wider net -- think about this -- than all international news networks combined, and underwrite substantial aspects of every day life. So the Air Force is responsible and committed to securing these assets. We put those satellites into operation, we fly their orbits, we track their slots, we de-conflict their airspace. We're always there and we intend to keep it that way.

As General Hyten recently stated during a speech at Stanford, the way to avoid war is to prepare for it. Prepare for it we have, and prepare for it we will. As we continue our dialogue about the future of space, I'd like to offer a framework for our discussion to help organize the dialogue in a way that moves us forward in the 21<sup>st</sup> century.

First, we must discuss how we organize, train and equip ready space forces to present to combatant commanders who are charged with fighting the force. Traditionally, this has been the role of the service with the preponderance of the force. Since today over 90 percent of the space force is Air Force, this would naturally fall on us.

In this light, we are eager to be named the lead service for space and will ensure that we not only organize, train and equip airmen, but all soldiers, sailors, marines and coast guardsmen who rely on space capabilities to accomplish our joint missions. While we already share some training venues and fulfill joint space war fighting positions, I am eager to expand joint presence in our formations to ensure we address my fellow joint chief's requirements, no different than I did as the space coordinating authority in Central Command under General Mattis, and that our CFACs around the world do today in every combatant command.

Second, I believe we need to discuss how we intend to operate in space. Under General Hytens leadership, and now continuing under General Jay Raymond at Air Force Space Command, we built an Enterprise Space Vision designed to integrate space capabilities in ways that continually improved how we operate and integrate. Just like we fight in the air with a family of systems and a networked approach to warfare, so must we fight in space with a similar family of systems approach.

In keeping with our intent to normalize space as a joint war fighting domain, we are updating the Space Enterprise Vision into a concept of operations, or CONOPS, to ensure it is presented in the lexicon of joint war fighting without space specific or unique jargon or concepts except where absolutely necessary. It is important to note here this

vision is shared with the National Reconnaissance Office, the NRO, which is what makes it so powerful. General Jay Raymond is working hand-in-hand with Director Betty Sapp (ph) to take this from vision to joint war fighting CONOPS integration.

Third in the framework, while not my job jar specifically, I do think we need to have a discussion at a strategic level about how we as a nation build and then issue sound policy and strategic guidance. There's some really good news here. In my career I have yet to meet a leader who better understands the importance of crystal clear commander's intent and guidance than our current Secretary of Defense. As the Central Command commander he issued succinct but easily understandable commander's intent that we then executed as component commanders. So I'm looking forward to offering Secretary Mattis my best military advice for how to integrate the Department of Defense with the national security team and Congressional oversight committees to ensure we receive solid guidance on which to execute.

Finally, on the fourth, which I've saved the best for last, we have to have an honest discussion about acquisition. In a recent hearing Chairman Rogers held up an organizational chart showing over 60 organizations involved in space acquisition, with any one of them being able to either slow down or stop progress. Ladies and gentlemen, this is no way to run a railroad. Sixty voices cannot, and will not, produce a coherent acquisition strategy.

However, I caution us not to look at the fix as merely a reorganization of the boxes and lines on an organizational chart. Many of us in this room have been through reorganizations that were hugely disruptive and produced little value as the organization resettled into the same way of doing business. The first rule of bureaucracy is to protect the bureaucracy. Or as Dr. John Hamre stated in his testimony, build a moot.

I would offer that we should adopt the age old philosophy that form should follow function. In my opinion, we don't actually have an organizational problem, we have an authority for decision-making problem. We must make some tough but essential decisions about who is responsible for setting space requirements and who is responsible for acquiring against those requirements.

And, of course, these requirements must align with the policy and strategy guidance as determined and communicated by our national security leadership and Congressional oversight. Ultimately, our challenge is staying ahead of any potential adversary, which we're ready to do. And we'll do it even better given the right authorities and the responsibilities built upon agile acquisition.

So if you sense a little passion today about this business and the Air Force's role in space, then I hit the mark. Benny Schreaver (ph), the father of Air Force space, Thomas White, our fourth chief of staff who coined the term "aerospace" that defined our future, Jerry O'Malley (ph), the guy most responsible for Space Command, Tom Morman (ph), Chili Chilton (ph), Bob Kehler, John Hyten, all space giants, this has been our business since 1954 and I hope it will remain so through 2054. And I hope when we

celebrate our 100 year anniversary in space we do it at our AFA convention on Mars, because SpaceX did it.

(Laughter).

And I hope most of us here will look down from heaven and have to duck, because that dog-gone =u Air Force keeps sending rockets to the heavens and beyond. Ladies and gentlemen, this is as important a dialogue as I will have as the Chief of Staff of the Air Force.

Once again, I thank Chairman Rogers and Congressman Cooper for leading the debate. Dave, thanks again for inviting me to speak. I look forward to taking a few questions. Thank you.

(Applause).

MR. : (Off mic) -- Breaking Defense. Are you talking about a resumption of the discussion about who commands in space that was raised about 18 months ago when you mentioned renewing the issue of who manages acquisition and all the rest? How far are you pushing this?

G: I had a chance to go out to Schriever Air Force Base and actually sat down at one of the meetings that at the time Admiral Haney was hosting when we were building the Joint Interagency Space Control Center, the JICSpOC (ph). There was a discussion there about command and control and what that actually means, because there are so many partners that are operating in space, whether you want to talk about our industry partners, whether you want to talk about our allies, whether you want to talk commercial, whether you want to talk intelligence or defense. So the question becomes, what does this actually mean, you military guys talking about command and control? Quite frankly, once we start talking about taking control of things, that causes concern -- rightly placed concern.

So what we have come up with is more of a command and coordinate approach which allows us to be able to coordinate across the various entities to look at how we operate together in space. So I would de-emphasis the piece about command and control and talk more about the business of how we coordinate. And we didn't have a venue before where we could actually all sit at the table and all talk about the relative concerns of each stakeholder and how we were going to have a continuum across the stakeholders to be able to actually operate. That's what JICSpOC is all about.

Remember, it's just an experiment this first year. We're working through how this looks in the future. We're looking at the future of what the Space Operations Center at Vandenberg and the Space Operations Center at Schriever, the JICSpoc Center, what does that look like for the future?

Do you need two? Do you want two in two locations? You can argue this one

round or flat, right, whether you want to take a look at having backup systems and resiliency, or whether you want to take a look at efficiencies when you integrate. So those are all the things that we're working through over the course of this year.

MS. : (Off mic) -- I was wondering in your vision as Air Force men or if you see the Air Force as taking a strategic or tactical role in kinetic warfare?

G: Whether it comes to kinetic warfare or not, that's actually a policy level decision. For us, what we look at is first of all how do we defend those capabilities that we have in space, first and foremost? And we talk a lot about space superiority. Just like air superiority, it's freedom from attack and freedom to maneuver. So as space becomes more and more congested, that is currently the responsibility of Air Force Space Command.

Remember, he wears two hats, right? He wears a hat that reports to me -- organize, train and equip, and present ready forces to the combatant commander, not only General Hyten, the primary customer -- but also General Votel (ph), and space capabilities op, supporting the campaign against ISIS. So that's that.

On the other side of the course he is also the component commander responsible for reporting directly to General Hyten. So when General Hyten is looking at his operational plans and he's looking to his lead space war fighter, he looks to General Raymond and General Buck. So for us, it's about making sure that we as a nation do our role in the Department of Defense, which is to achieve air and space superiority, freedom to maneuver and freedom from attack. Thank you.

MR. PAT HOST: Hi, sir, Pat Host from Defense Daily. Do you share General Hyten's belief that reusable rocketry and rapid launch are critical to Air Force national security imperatives? If so, how are you going to push that (rapid ?) capability?

G: The reality for us is our responsibility is to ensure that we maintain assured access to space. That is the full range of payloads, everything from the heavy national security payloads to the lighter payloads that industry is producing right now. So across that whole spectrum of light payloads that you can get through rapidly reusable rockets, and the very heavy payloads that require a much more robust industry effort, we've got to make sure that we have access to space across that continuum. And we have to do it in a way that can be agile enough so that when a satellite is ready we actually have the rocket body that can launch it into the orbit that it needs. So when it comes to looking at both reusable rocket capability, when it looks to the light payloads, when it looks to those payloads that we can actually add to existing launches, all those play out for us to ensure that we maintain assured access.

MR. HOST: Thanks.

G: Thank you.

Hi, Laura.

MS. : (Off mic) -- What assurances have you gotten from them? What have you told them? What do you see as their direction in space?

G: Thanks, Laura. I would just tell you that I actually have had -- you probably saw that the Joint Chiefs had a chance to meet with the president. We actually had our first session before that with the new Secretary of Defense and we were able to actually be there on a great day when the Army secretary was sworn in. So we did talk, and each of us were given five minutes as we were in the tank prior to moving to the swearing in, about five minutes to have a really open and honest dialogue with the president about each of our services and what it is that we do, and talk about each of our services. We went around the room. So I'll just share with you what I shared with the president.

I said, Mr. President, what you need to think about when you think of your =u Air Force is you've got to think about two lenses: first, that which we do deployed at home to defend the homeland and to contribute to global capabilities; and that which we do deployed in bases forward. That which we do deployed at home to defend the homeland starts with the nuclear enterprise. And, Mr. President, along with the =u Navy we have two of the three legs of the nuclear triad. And on our worst day as a nation our job as the =u Air Force is to make sure that you are where you need to be and that you remain connected through nuclear command and control.

That leads us into the second thing that we do for you here in the homeland, which is we run and fly 12 constellations in space 24/7, 365 to ensure that we have continued access to the capabilities that come from space. When it comes to sensing the globe from six domains: air, land, sea, space, cyber and undersea; and you combine all those together, someone has got to take all those ones and zeroes and turn them into decision quality information so that you remain aware of what's going on around the globe and so you can make decisions in a timely manner. Much of that -- much of that, is the responsibility of the =u Air Force working with our joint teammates here at the table.

And, Mr. President, if we walked outside right now you would hear the jet noise from two F-16 that scrambled this morning from Andrews Air Force Base to provide top cover for you while you're here, just as we do around the nation to defend the homeland. That's a snapshot of what we do deployed in place here in the homeland.

And then when you look forward, the first thing to think about, Mr. President, is how we achieve air and space superiority for the joint force. It's about freedom, like we talked about. It's about freedom from attack and freedom to maneuver.

Once we've achieved air superiority through a network of bases across the globe, we actually every about two and a half minutes have an aircraft taking off or landing somewhere on the planet that is delivering critical supplies or personnel where they're required. We are a global force because of global reach and global mobility. You saw an example of that, Mr. President, just a couple of weeks ago when two B-2s took off out of

Whiteman Air Force Base, flew 40 hours and took two training camps off the battlefield, with all of the tanker support and all of the communications and command and control support that required.

Mr. President, we went back and took a look at just the timeframe it took to make you our 45<sup>th</sup> president, during the inauguration. We went back and looked and airmen, soldiers, sailors and marines, all working together jointly on the battlefield. Just in the time of your inauguration, we took 300 people off the battlefield. That's what your Air Force does for you every day.

The challenge we face is that every one of the missions that I've just described is a growth industry. Every one of them is in greater and greater demand by the joint force and the nation. While we have this growth industry of demand, we've had 50,000 airmen leave the Air Force. So we find ourselves today, as an Air Force, that is too big for the resources that we've been given and far too small for what the nation demands. In between those two bookends lives risk.

So what you're going to hear from me, Mr. President, when it comes to the readiness of the =u Air Force, is we've got to get this force sized right for what the nation requires, to do all those missions I just described, because every one of them is no-fail. So anyway, that was my five minutes with the president.

(Applause).

MR. COLE THORPE (ph): Good morning, general, I'm Cole Thorpe with Space News. There has been discussion several times about whether Air Force Space Command should be changed into a NAT (ph) command. I'm just wondering your thoughts on that. Is that something that will help or hinder integrating space and joint operations.

G: That's part of the dialogue that I'm actually eager to have. Again, if we do follow along the logic of form follows function, how do we want to operate? What are our CONOPS, our concept of operations? And what organizational structure best fits the way we operate in those four key areas?

How do we organize, train and equip, and who is responsible for that and who is accountable for that? How do we operate and how do we organize ourselves to operate in space? How do we acquire, with the right decision authorities, to be able to keep programs on track, make use of the ability to do multi-year contracts, do all those things that we have to do to make decisions and acquire in space?

And how do we ensure that we can get good policy guidance and good strategy guidance that we can execute upon as the Department of Defense as we go forward? If we can look at those four key areas and have a discussion -- because they're not actually individual and separate, there's connective tissue between all four -- if we can look at those and make some decisions on how we're going to proceed forward, then I think

we're moving forward in the right direction.

MS. COURTNEY ALPERN (ph): Courtney Alpern with Inside the Air Force. If I can follow up on that I'd like to ask about acquisition authority. From your point of view, should the Air Force have that acquisition authority, and why or why not?

G: When it comes to acquisition authority what I talk about is actually the authority for the key decisions that have to do with when we bring programs along, right? At what point do we bring it to a decision body and then make a decision on a Milestone A and Milestone B and Milestone C decision? As the chairman has put out and shown us, when you have so many folks that all have to get together to line up and everyone has to say yes I approve that, what happens is you end up with a stagnation of decision-making along the way.

That just automatically starts raising costs because remember, every space program has three elements to it. There's the constellation, there's the integration aspect of how we integrate that into platforms that are going to rely on that information, and there's a ground control segment. Every space program starts perfectly aligned and then life gets in the way of the perfect plan and some part of those three starts getting delayed.

We haven't had a decision body in the past that can actually take a look at the fact that the ground control station of this particular family of systems is getting delayed for whatever reason. How do we realign and adjust and build these programs so we have the agility and flexibility to maintain the alignment as we go forward, so we don't end up having to launch, because I can't re-set the launch with the ground control station or I can't get the ground control station realigned because life got in the way of the perfect plan and either one or more of the services the integration hasn't worked? Or, we find a cyber vulnerability that we hadn't anticipated because the adversary gets a vote. So now we have to slow that down to ensure that we have that piece of it covered so the entire enterprise is cyber-secure.

How do we ensure that we can continue to keep this alignment as we go forward? That requires somebody with decision authority who can keep those aligned for the joint force. That's what I'm advocating for.

MS. ALPERN: Are you, though, advocating the it reside within the Air Force or in an outside body that has kind of a larger perspective across the enterprise?

G: I think you're going to have to have different levels of decision-making, without having too many levels. But there is going to be one -- I mean, again, the Air Force clearly has a significant role to play in terms of managing these acquisition programs. It's the organize, train, equip and present ready forces to a combatant commander. It's no different than we do in other domains. So where you've going to hear me continue to champion is, how do we look at the way we do business in the other domains? How do we do business in the land domain when it comes to organize, train, equip, acquire? How do we do it in the sea domain? How can we take those tried and

true principles for how we do business in those war fighting domains and apply that to space to ensure that as we move forward we're talking about integration and not separation? Sometimes we're a little guilty -- I would say we being collectively and we within the =u Air Force -- of talking about space in ways that you have to have a degree in astronautics to understand what we're talking about. It's time to actually look at how do we normalize this dialogue in the lexicon of joint war fighting as we go forward.

MR. : (Off mic) -- Air Force Magazine. Sir, how are you feeling about the competitive strategies for launch services? A SpaceX rocket exploded last year. Has it been re-cleared for national security missions? How do you feel about that process?

G: I'm actually feeling pretty good, and I think we're right on track to right now - - everything I'm seeing and reading is that we're on track to re-certify SpaceX for launch. I had a chance to talk to the leaders in SpaceX and they talked me through their assessment and their accident investigation. Sam Greaves, the Space and Missile Systems Center commander, is doing his own independent assessment, which is appropriate in terms of our oversight of national security launches. We're doing our own assessment to ensure that we align with what they came up with, which is their findings and recommendations for the future. So I'm feeling actually pretty good.

The challenge we have is that we've been given a very specific task. That is to transition to two independent domestic commercial launch providers that can cover the full gamut of space launches that we need in the Department of Defense. To do that, these companies have got to build along the way, and so therefore there's a certain number of launches that they have got to succeed at and have and they have to compete for. So there's a timeframe that -- and you know we had a very robust debate about the RD-180 engine. The reality is, to accomplish the task that we've been given, which is to transition to at least two competitive launch service providers, we have a period of time where we actually have to use the RD-180 engine. As soon as we can, we want to move off of that engine into a U.S. alternative. So right now, as I look at the path we're on, I would tell you that we're on a glide slope.

MR. : Are you saying there's a separate assessment ongoing from the SMC assessment?

G: Yes.

MR. : Who's conducting that?

G: General Greaves and his team.

MR. COLIN LEE: Sir, Colin Lee on the staff on House Appropriations. You touched on your acquisition plans. Combined with spending on space R&D it is probably at its lowest in 20 years. Both General Teague and General Greaves both had their hands tied behind their backs in getting the capabilities in space that we need. How do I give my members reassurance that you're adding in more sums of money to move these

programs forward so the programs can get through the acquisition process and move forward in an orderly manner that is helpful to national security while mindful of taxpayer dollars?

G: Well first and foremost I think we've got -- and I am sure that we will -- achieve your trust and confidence that we're going to spend wisely with whatever we're given. One of the ways that we do that is to ensure that as a service, and all the services, are working towards that, that we are audit ready. With Congressional oversight you can walk in and we can show you the books and we can show you an audit that says here is exactly where we have placed the money.

Again, the highest priority that we have been given by the national security team, with Congressional oversight -- that's why that strategy and policy guidance is so important to us, so that we can actually -- you ought to hold us accountable for spending those dollars against those priorities that we've been given. And once we've made a decision, we've got guidance. Then we have to ensure that along the way we don't have so many voices that can roll in and slow down or stop, or that can say the three worst words in the acquisition language that I learned as chief, and those are, let's study it.

(Laughter).

And we all know what that means, right? That's code, right, for let's slow this down. Let's not make a decision. Let's study it.

So what I'm looking for is speed, speed of decision-making based on appropriate authorities, but speed of decision-making against sound policy guidance. I fully expect to be held accountable for every dollar we spend, and I welcome that.

Thank you very much, everybody.

(Applause).

MR. HUESSY: Thank you, general, for an extraordinary set of remarks and really good Q&As, which we'll have for you in a couple of days when our transcript is done. I want to thank you all for making the first event this year a very successful event. My good friends, Congressman Bridenstine, Jim Cooper and Chairman Rogers, thank you for being here.

Thanks to all the sponsors that are here and our help and foreign guests that are here. We will see you on March 2<sup>nd</sup> with General Hyten. Again, would you all give a real warm applause of thank you to our Chief of Staff of the Air Force, General Goldstein?

(Applause).

