

## **Air Force Space Command Media Roundtable 9/14/06**

### **Gen. Kevin P. Chilton – Opening Comments:**

It's good to see you all. Thanks for coming out, taking the time to come out and join us here today. This is really a pleasure. If you don't mind, I'll start off with a few things. Is everybody ready? Okay, first of all, I can't tell you how fortunate I feel to be in this job and be assigned out here at Peterson Air Force Base, living in Colorado Springs and in command of the greatest space force in the history of the world. It's just an awesome feeling, an awesome responsibility, but one that I welcome, and I'm excited about being here.

It's been pretty fast paced. I just got here and got the family back here. We settled in the end of June (and) took command. We've already had Guardian Challenge, the premier space and missile competition. That happened right off the "giddyup". (I've tried) to get myself immersed and out to visit as many of the Wings as possible. That's worked out really well, and I've been just absolutely impressed by the quality of people and the great work that this Command is doing to support our country on so many different levels.

I mentioned this in my assumption (of command) speech -- I pondered this great force that we have, these great people we have, before I took command. What struck me is that they're kind of an out-of-sight, out-of-mind group, and I referred to them in my (assumption)-of-command remarks as an "invisible force," but an incredibly powerful force. When you think about it, a huge portion of our country's nuclear strategic deterrent is buried underground up in northern-tier states of North Dakota, Montana, Colorado, Nebraska and Wyoming. The folks who operate (there), or a good bit of them, live underground. They're out of sight and out of mind -- incredibly powerful and incredibly, important to this nation's security.

Think about the capabilities that we deliver from space; you don't ever see satellites on parade on a Memorial Day weekend or Armed Forces Day weekend, but they're up there. And the folks who are taking care of them aren't in the headlines, you don't read a lot about them. But they're out there every day, 24/7/365, making sure that America has those capabilities delivered. The capabilities that they deliver -- those effects that they bring to the United States of America -- is not just to the military. It's not just to the Air Force, for that matter.

When you think about it, there's not a thing we do in this Command that is strictly for the United States Air Force. The things that we do in this command are for everybody in the armed forces -- Army, Navy, Air Force and Marines. On top of that, some of the other capabilities we bring, Global Positioning System, for example, are for everybody. They're a huge and important part of this Nation's economy. They're a huge and important part of the global economy. And that's brought to you by this invisible force that is launched, operated and shepherded day-in and day-out by the men and women of Air Force Space Command. So I am just incredibly proud to be a part of this team that delivers that kind of capability.

Our Chief's (Air Force Chief of Staff Gen. T. Michael Moseley) main focus areas for our Air Force, are first and foremost, to win the fight and stay focused on the war that we're in right now, (second) to take care of our people and (third), recapitalize our forces. When I look at how that applies to Air Force Space Command, this is a no-brainer, it lines right up. Again, as I mentioned, everything we do for the Department of Defense, (we're doing to help) our military men and women ... who are engaged in this war.

We bring them precision navigation and timing, so they can operate in the fields. We bring them weather forecasting so they can understand the environment better that they're going to operate in. We bring them communication satellites, we bring them missile warning, so they know when to duck and know how to prepare for attack. We are engaged around the world supporting the Global War on Terrorism every day. And on top of that, we have about a thousand folks from this command who are deployed forward and doing everything from civil engineering support, security forces support, driving convoy trucks up and down the roads in various parts of the world. You name it, the folks who help keep this command running day-in and day-out are also being tapped to go forward and help with the war effort in deployed locations around the world. And I'm incredibly proud of these folks. I'm proud of the folks who back fill for them

back here in America while they're gone. So we are absolutely focused in this command on making sure we bring our capabilities to fight this Global War on Terrorism.

Taking care of our people: First of all we've just got some outstanding folks, some quality people, and they're the kind of folks you want to retain and motivate and keep on board with us. Nearly 40,000 people in the command, and it's a total-force command. We have active, Reserve, Guard, civil servants and contractors we count on to get our mission done day-in and day-out. We don't differentiate between our team members when it comes to that. They're all part of the team; we need them all to do the job. I tell the folks in this command that I don't care what you wear over your left pocket, I don't care what the badge says up here (he points to above his pocket). (I) care what you wear over here on the side that says you're part of Air Force Space Command. If you're part of Air Force Space Command, we need you. We need you to get the job done. I don't care what your job is, we don't get it done without you. So we have some great folks and we're focused on taking care of them. I'm also focused on looking ahead to the future and asking questions of ourselves. What kind of people do we need in the future in this Command to take us forward into the 21st century as we see what I believe will be an ever-increasing focus on a space domain and ever-increasing criticality of that domain?

When it comes to recapitalization, we have some tough challenges in our United States Air Force when you look at the air-breathing fleet that we (rely on) to provide security for this country. And General Moseley, most of his remarks, you'll hear him talk about that, and he's exactly right.

We've got tankers out there and B-52s that were bought when I was six or seven years old. That's when we bought those (aircraft). When our Chief (of staff) joined the Air Force, the average age of all of our airplanes in the Air Force was about eight and a half years. Now it's pushing toward an average age of twenty-five years. ... One of the things that separates our Air Force from the rest of the air forces in the world on the air-breathing side is our KC-135 tankers. We can deploy, but we don't have to land when we go. We go around the world non-stop because of our refueling capabilities. We have them with our cargo aircraft, our bomber aircraft and our fighter aircraft. That is a huge advantage.

Well, the majority of the airplanes that we rely on doing that, as I said, were built in 1960, 61 or 62. If we start replacing those airplanes tomorrow -- which, by the way, we're not starting tomorrow -- at a rate that we can afford would be about fifteen airplanes a year. By the time you retire the last one, if you do the math, it would be about eighty years old. I don't know about you all, but I can't imagine getting in an eighty-year-old car and counting on getting to the grocery store and back. And I don't (like) the idea of putting our young men and women in those kinds of airplanes in the future. So this is a tough challenge that our Air Force has to address with regard to our KC-135 fleet, our long-range bomber fleet and the helicopters we use for search and rescue. We're still flying helicopters today that were in the Mayaguez incident in 1975 that were shot full of holes. They were patched up, and we're still flying them today. These are serious issues.

Now, how does that all apply to space recapitalization? Well, the good news in space is we are recapitalizing every single satellite constellation we have right now. This country's investing quite a bit of money in making sure that we not only maintain the capabilities we have up there but that we advance them. It's not just our space-borne assets, but the same can be said for our intercontinental ballistic missiles in the missile fields. We are improving. We're making modernizations and improvements to every element of that ICBM fleet.

So we have a good news story in Space Command, (concerning) the Chief's focus area of recapitalization, in that we are doing it. What is our focus? Our focus is to make sure we do it on time, on cost, on schedule and deliver the capabilities the taxpayers expect of us to bring forward. And that's one of our big focus areas.

General Lord (retired Gen. Lance W. Lord, former AFSPC commander) started off prior to my watch in declaring that we will take our Space and Missile (Systems) Center and make it a premier acquisition center in the Department of Defense. So we're going to continue to focus on that to make sure we bring home the capabilities this Nation needs within budget and on time.

I wanted to talk to you a little bit about my thoughts on where we are in general in this Nation and in this world situation with regard to the space domain and operations in space. I believe we're at a turning point in history. I don't mean just today, and I don't mean this year, but I mean during this time period, the time period we're living in and the time period we're going to inherit in the immediate future.

Why do I say that? Before the end of the Cold War there were really just two powers contesting the space domain. That would be the Soviet Union and the United States of America. Back before 1992 we put a lot of effort into developing a very robust intelligence community focused on the threat. We put a lot of effort into developing new systems to operate in that arena. It was a big focus area for us. Maybe not the biggest, but it was a very big focus area. When the Cold War ended, I think appropriately so, we decreased the focus in that area, because there was not the threat anymore. It was the early 1990s, and in that time period the major players in the space domain were still Russia and the United States of America.

Now if you look at the scorecard, at who's playing in that domain, it's increased dramatically. In fact, there are about ten nations who can and have put satellites in orbit around the Earth as opposed to just two (nations) that we were really worried about before ... and so that's an interesting dynamic that's changed.

Before 1991 the number of small satellites -- I'll characterize those as weighing less than a thousand pounds -- from 1985 to 1991 there were about 34 of those launched. Since the end of the Cold War, 373 have been launched. In the old days we used to be limited by our boosters, so you'd occasionally launch some of those small satellites because you couldn't boost anything up bigger than that. Nowadays we're not booster limited, but we're going back to small satellite technology. We're seeing that (technology) being proliferated around the world, because the technology's advanced to putting improved capability in smaller packages.

So you start seeing more players in space, you start seeing smaller things going up, more capable things going up. We are beginning to appreciate and at least clearly understand -- folks in this room clearly understand -- the importance of space not only to our military operations but to the fundamental economy of the United States. I think it's time we start turning that focus that we had before the end of the Cold War back up. I said I think (that focus) was appropriately tapered off, but now it's time to be turning it back around. Why do I say that? It's because space is so important to us. It is militarily. Clearly nobody else's phone is going to ring if someone starts to challenge our capabilities in space, whether that be Air Force capabilities, Department of Defense or others.

The phone that's going to ring is going to be here at Air Force Space Command. "What are you doing about it or why haven't you done something about it?" I don't want to ever answer that phone and not be in a position to say we know what's going on and this is what we think we need to do. The first steps in doing that -- and you'll find this in any domain that you operate in, whether it be land, sea or air -- is to understand the environment, understand what is up there, and what the capabilities are of the things that are up there. Ultimately what you want to get to is (to understand) what the intentions of the owners of those things are, and where everything is (in space) -- not only where it is today but where it's going to be tomorrow or a week from now. And that's something we can do pretty well thanks to (Johannes) Kepler, if we have the right data flowing in.

What we call this in military jargon is situational awareness. The land component commander needs situational awareness to know what's out on the battlefield. The air component commander needs situational awareness to understand what's in the air space that he's going to operate in. (It is the) same with the naval component. In space we need that situational awareness as well.

We have been really good in the past at counting what's up there and keeping track of what's up there -- cataloging, if you will. I maintain it's time that we move beyond cataloging and go to the level that I mentioned, which is to be able to identify what's up there and understand what its mission is and then ultimately determine intent. So within this area I'm particularly focused on increasing our ability to develop space situational awareness for the commander who is going to execute space operations, and that's

General Cartwright at STRATCOM (Gen. James E. Cartwright, commander, U.S. Strategic Command) through his functional component commander, General Willie Shelton, (Maj. Gen. William Shelton) who is my 14th Air Force commander. So that's also one of my big focus areas.

There's another area that I think will be important for us as we move to the future, and we've been taking a close look at it, and that is how responsively we can put things into orbit. What we're doing right now is we're working through and trying to understand what exactly the requirement is for being more responsive than we are today. And I'd argue we're a pretty responsive force today with the capabilities that we have, the flexibilities we have to adjust those forces. But we're looking at responsive launch capabilities and examining those and seeing where we can contribute to those requirements, understand those requirements and contribute to those capabilities. Because, when it comes to putting things off the planet, the pro for doing that is Air Force Space Command. That's what we do out at Vandenberg Air Force Base (Calif.) and out at Cape Canaveral (Fla.).

People don't leave the planet physically, or their satellites don't leave the planet without Air Force Space Command being involved in that operation. We're very proud of that. When it comes time to talk about future ways of doing it, we should be the leaders.

Let me segue a little bit there. I talked a little bit about us being an invisible force. One of my key vision areas for this command is that we become the acknowledged experts in space. I believe we are the experts in space. I believe we bring tremendous expertise to the field. But I want other people to recognize the fact that the expertise is here in this command. When you've got a question about (space), the phones ought to be ringing here in Colorado Springs at Air Force Space Command Headquarters. The analogy I use is, we can't imagine if someone had a question on how to use airplanes to do close air support that the phone wouldn't ring any place other than Langley Air Force Base, Virginia, at Air Combat Command. Or if somebody had a question about how to deliver cargo to the other side of the world the phone's going to ring at Air Mobility Command at Scott Air Force Base (Ill.). If someone has a question about military space operations, the phone ought to be ringing here in Colorado Springs. That's the kind of vision I have for this command, that we become acknowledged as the leaders and experts in this area.

Let's talk a little bit about just living here in Colorado, the opportunities (here) and what I see in this eastern slope of the mountains here. First of all, I love it. It's great to be here. My family loves it. That goes without saying. We spent Saturday riding horses in the mountains, and what a gorgeous experience that was for the kids and me; although I just started walking straight today after last Saturday. (laughs)

When we look to the future and we start asking ourselves questions, what skill sets do we need in our people as we move forward? We start thinking about education in this country, which goes broader than Colorado of course, but we start thinking about it. Are we going to meet the engineering and scientific requirements in the workforce that we need in this country as we go into the future, particularly as space becomes more and more important to us? Are we going to have the engineers and scientists, program managers, cost estimators, you name it, that we need in our acquisition fields, whether in industry or in the military? Are we going to have the expertise and the background we need to operate the future systems that we're bringing on board like a SBIRS (space-based infrared system) satellite that will be taskable, or a space radar system that will be taskable? I think this is an area that's not just a concern of Air Force Space Command and the Department of Defense, it's the concern of the Nation.

One of the areas I really want to focus on is, I want to raise the bar on the opportunities for the folks in Air Force Space Command to further their technical education through teaming with universities here in Colorado. Los Angeles is another center of gravity for us where our acquisition force is. And then, of course the Air Force and the Navy have excellent higher education facilities that we can send our folks to and figure out ways that we can facilitate and make it easier for our people to continue on in technical degrees. At the same time we've got to start looking for accessions too. And I want to get the word out that Air Force Space Command, and this business in general, the space business, is a marvelous and exciting place to work in. And we've got to get that message out to the youth of America.

When I look at the great educational opportunities up and down the eastern slope here in Colorado and the great universities we have here, I see a pool and a resource not just for Air Force Space Command but for the country. And so part of our challenge is to get out there and make people understand that we need them. It's fun business, I've got to tell you. There's nothing more fun than banging rockets off the pad in California or Florida. Well, I can tell you one thing that's more fun, and that's being on top of one. But, it is an exciting business. And operating satellites remotely from the ground is incredibly exciting business. I'm for recruiting and attracting young folks into this area for the benefit not only, as I said, for this Command, but for the Nation.

I guess I'd close in saying that -- besides being the new commander and being excited about that and having lots of challenges on my plate that I enjoy waking up to every morning -- this is going to be an exciting year in and of itself for the United States Air Force as we celebrate its 60th anniversary. And also for Air Force Space Command. In 2007 we'll be celebrating our 25th, our diamond anniversary of the stand-up of this command back in 1982. It's a significant milestone. It will give us pause on many occasions in the coming year to reflect back on where we've been, where we are and where we're going. All of that is exciting to me.

I've talked enough. I'm sure you all have questions. I'm happy to take them and spend the rest of the time on your dime.

Q: Bill Scott, Aviation Week: You mentioned when the 9-1-1 calls come in from the White House or wherever, you want to have something more than, "I don't know," or, "I don't know what we're going to do about that." How do you see the state of national security space infrastructure vulnerabilities? Can you give us an idea of the assets or capabilities that you have available to: one, determine if someone is messing with our stuff, and two, can we do anything about it?

A: Bill, how do we prepare ourselves to answer that call? I know we're not as prepared as I'd like to be right now to answer that call. But you have to address it, broaden it to say, are we prepared to address the security of our national security space assets? It runs across a broad spectrum. I don't look at it just in the space domain or environment. I mean, there are key and critical nodes on the planet Earth we have to be concerned about, and you've got to be focused on making sure that you have redundancies in those nodes -- not only out of fear of attack but also out of fear of natural disaster. You've got to be thinking about how you defend those locations too and make sure their security is robust enough to deter anyone from messing with them. You've got to think about the spectrum we communicate through between those ground stations and our satellite constellations and how we protect that spectrum and counter those who would deny us that spectrum. Then you've got to also consider the assets that we have on orbit.

I talked a little bit about increasing our space situational awareness for the assets on orbit, because of all those areas, that would be the area I'd say we need to do the most work in.

I mentioned we're pretty good at keeping track of how many things are up there. But what those things are and what they can do, and, as we move to the future and in light of my points on satellite technology getting smaller and seeing smaller and smaller satellites up there, the difficulty of doing that mission is going to get harder and harder. Now is the time to be thinking about it and putting the focus on step one -- securing any domain, and that's being able to answer the question, "what's out there?"

There are a lot of things that can go wrong with a satellite. You can have a part wear out and have it express that failure in a certain way. You can have a natural phenomenon (such as a sunspot or cosmic-ray interrupt in the software that can cause an effect. Or you can have someone maybe toying with you through the (radio frequency) spectrum or physically up there. And that's what I mean by being able to answer the question. That's the first question you've got to answer, is this a natural phenomenon, or somebody causing harm to our systems up there?

The next question you'd sure like to (have an) answer for is attributability. Who's doing it? So you listen, you know who to (call) and say, "Knock it off." It just cascades down into the various levels of capabilities

that you can debate about how far you want to field them or where you want to field them and address it. But that's the first order of business in my mind.

Q: Tom Roeder, The Gazette: You talk a lot about space situational awareness. One of the key tools for that is the 1st (Space Control Squadron currently) at Cheyenne Mountain. You're looking at kind of throwing them to the wolves or chaos a little bit by pulling them out and moving them to Vandenberg Air Force Base. How does that – the shift at the mountain – go about improving situational awareness?

A: You hit it exactly right, Tom. The 1st Space Control Squadron is a key element in developing space situational awareness, Tom. But I don't look at it as throwing chaos at them. We're actually doing them a big favor and doing our Nation a big favor by taking them and putting them in a position to do two things. One is to upgrade their systems and their capabilities and bring them into the 21st century. Right now they rely on a 1991 computer inside that squadron to do the work that they do. We can do better than that.

I should have mentioned this earlier. We had a great day for the United States Air Force and for (U.S.) STRATCOM a couple days ago, when we stood up the new Joint Functional Component Command for Space out at Vandenberg Air Force Base. The commander of that organization, General Willie Shelton, my 14th Air Force commander, wears two hats. He (also) works for General "Hoss" Cartwright at STRATCOM and is the operator responsible for supporting our combatant commanders all around the world, as well as General Cartwright in executing space operations.

When something happens to our space assets, the first time it happens, the first phone's going to ring on General Cartwright's desk, and he's going to call General Shelton. And General Shelton's the guy who really needs the support on space situational awareness. And by moving the First Space Control Squadron out to his headquarters, co-locating him with his command-and-control element ... We move those people out there. We move the talent out there, to combine with the command-and-control element, we move the equipment out there and break the Cold War linkages that equipment has that have really slowed us down cost- and capability-wise. And upgrade. We'll be able to give them new equipment, better equipment. We'll be able to find synergies that we haven't even thought about yet, as we combine that talent pool with the folks who are doing strategy plans and day-to-day execution of the orders we put out to maintain our constellations and ultimately defend them.

So this is a huge mend for the United States of America, for the Nation, as we look forward to meeting the challenges I described earlier; and that is developing space situational awareness and being in a position to defend our assets in space.

Q: Roeder: Are you making any further divestiture in the Front Range area? Are you pulling out any more troops to improve our situational awareness?

A: No. In fact, in other areas I see some potential growth, with the RAIDRS (Rapid Attack Identification Detection and Reporting System) mission coming in, and some of our space experimentation squadron working at Schriever. But that's growth -- minor growth in those areas. In the end what we need to do is do what's right for the country, and I think this is exactly what's right for the country. I know that's why the folks here in town support us. I tell you, we have the best support here in this area for the military. I can say that from going back to having been here in 1972 to 1976 as a cadet at the Air Force Academy, and having come back through here since. Being here now, visiting with General Mixon (Army Maj. Gen. Robert W. Mixon, commanding general) down at Fort Carson, and General Regni now (U.S. Air Force Academy Superintendent Lt. Gen. John F. Regni). Colorado Springs is a marvelous place when it comes to supporting the military mission here, and I know the folks here understand that we wouldn't do this lightly.

Q: Robert Weller, Associated Press: NORAD (North American Defense Command) said 600 space command people would be staying at NORAD.

A: I couldn't give you exact numbers. I can tell you that the 1st Space Control Squadron has about 140 people. One of the areas I think some folks get confused (about) in the whole discussion has to do with what NORAD/NORTHCOM (Northern Command) is doing in Cheyenne Mountain and what we're doing in Cheyenne Mountain. We have a lot of Airmen in Cheyenne Mountain who wear this uniform who work for NORAD/NORTHCOM. And that's probably where the confusion is.

There's a subset, a small subset, who do not work for NORAD/NORTHCOM, who work for Air Force Space Command and actually work for General Shelton, and that's the 1st Space Control Squadron, about a hundred and forty people. That's what we're talking about adjusting out of the mountain. It's really a separate and distinct issue from (Navy Admiral Timothy J. Keating's) adjusting where he has the majority of his staff support for -- whether it's going to be operating in the mountain or up here at Peterson Air Force Base. Two completely different issues.

Q: Weller: Speaking of the road (Admiral Keating's) heading down ... the reason that we went into the mountain was for security because we had a two-story block house here that could have been taken out by a bazooka. Lt. Gen. (E.A) Findley (Canadian Forces, deputy commander of NORAD) was in Denver a couple of weeks ago, and I asked him, can you guarantee the safety of Peterson Air Force Base? He said, no, there are force protection issues that have to be resolved. We are in a position, right next to the Colorado Springs airport ... (General Findley) said over the next 18 months, his issues would be resolved, but are we in a position to guarantee the safety of NORTHCOM and NORAD and Peterson and everything else in the middle of a town? It just raises all sorts of questions.

A: I'm not sure (as Air Force Space Command) that we are in a position to secure that. Admiral Keating knows what needs to be done, and when they tell you it's going to take some time to make sure the adjustment's right, they understand, I'm sure, exactly what needs to be done to make pertinent decisions in this area. I don't want to speak for Admiral Keating -- we've talked about this issue -- they're going to take prudent actions along the way and take the right course of action. From what I've heard from the discussions, it's the right thing to be doing.

Q: Scott: Up at Buckley Air Force Base (Colo.), there are some pretty critical assets, too. (Paraphrasing) What measures are you taking for force protection up there, asset protection?

A: (Repeats the question) What have we done at Buckley with regard to force protection? You know, I hesitate to go (into) what we're doing with regard to force protection anywhere. I will say in general we have increased (it) in this command, before I got on the watch, and our focus on force protection and protection of our assets, particularly our ground-based assets. I take regular reviews on the status of how we're doing in those areas, around the world. So we're focused on that element for sure. Because, I mean, that's something that's certainly within our power to pay attention to. And General Lord, before I came on board, had already started that program. Now it's become part of our routine.

Q: Dick Foster, Rocky Mountain News: What's your time frame for moving the 1st Space Control Squadron out of the mountain?

A: As we move down, there are some technical issues that we're working through, but I would see us starting to transition in '07, and I would like to see the transition completed by next summer.

Q: Foster: And do you anticipate any sort of resistance from the people like the Congressional delegation who seem to respond to every sort of movement here in Colorado Springs with opposition?

A: Dick, I've had great conversations with both our state senators here as well as Congressman (Joel) Hefley, and the mayor (Lionel Rivera). I've advised them of what we're doing. Again, this gets back to the relationship issue that is so wonderful here. We can have open conversations and we don't hide things. We've made sure that we've had open discussions with them on where we're headed. I think we've got to put this in context. We're talking about 140 people moving out, one squadron, in a time period when we're starting to grow Fort Carson by 10,000 people. I'll leave it to you to assess what challenges that will bring to the community -- to grow. But, you know, we love Colorado Springs. This isn't

about doing something to Colorado Springs. This is about doing something for the country. And I know we'll get the support from the community for that.

Q: Rich Tuttle, Aviation Week: You mentioned you want to put more emphasis on space situational awareness. Do you see your budget changing on the Hill as you submit budgets in coming years to emphasize that sort of thing more?

A: Do we see budgets changing on the Hill? A couple points. One, that's how you get things done, it takes money. That's my job as the commander - to organize, train and equip. So, as I put focus on this area, we will work internally as a staff and work internally with the Air Force process to make sure we get the right focus and the right resources put toward accomplishing this goal. And I think it's the right thing to do, and that's where I'm going to put my time and energy.

The interesting thing is it doesn't really take a lot of money, I don't think. I think we just need to focus early on in the right areas and make the investments. I think we can accomplish a lot by some focused investments in technology, some focused investments in -- or focused looks at -- what do we have out there today and how can we better utilize it and get it together to provide the information that the commander needs out at the 14th? So you're right, we'll have to work hard to make sure we adjust (prior) on our investments.

Q: Tuttle: And you mentioned -- well, I don't think you mentioned it, but a special projects office standing up at SMC. What is the status of that? What are they doing a special office for? I think the idea is to focus acquisitions a little better ...

A: (Follow-up information provided after the fact: SMC's Development Plans Directorate focuses on future developments of space and is currently led by Col. James Painter.)

When you come into an organization, any organization, (some) of the first things you ask (are), A. what's my job? and B. what are everybody else's jobs? As we're starting to downsize -- we're going to see 40,000 fewer people (in the Air Force) in the next three to four years -- one of the immediate things you ask is, okay, who's doing somebody else's job besides their own? What are the lanes in the roads, and where do we need to be? We can't afford to be inefficient in the way we do our business. This is true of anybody coming into an organization.

These are some of the questions I'm asking early on. Let's make sure we all understand what our jobs are. Let's make sure we're focused on those. Let's make sure we're trying to help each other out and accomplish our jobs. It's not just about doing your job, it's about getting a mission done for the command, but where are the redundancies and overlaps? When it comes to developing (space) requirements, that is a leadership role for this command headquarters. But we can't do it alone, because we have tremendous expertise out at SMC in Los Angeles. They have a group out there that looks at the current architectures and how we might evolve current architectures based on technological advancements. This is the office you're talking about, and what I've asked is that we tighten up the linkages between that office and our requirements writers here at Air Force Space Command, and make sure that we're operating in sync with each other. I think when we do that, or as we do that better -- I'm not saying that we weren't doing it in the past -- but as we do that better, we'll sharpen our focus on exactly what we need and what the right technologies are to move out on, right architectures to move out on, to support the customer.

Q: Tuttle: Another quick point -- That war with Hezbollah -- that sort of thing -- it wasn't clear to me whether we could help them from space -- help the Israelis see slow rockets being fired. Are there any requirements coming out of that whole thing that affect Air Force Space Command? Are you involved in any way?

A: I haven't seen any flow down, no.

Q: Roeder: Back to space situational awareness. You catalog the stuff up there, but you don't know what's up there. In the 1980s, when the Russians launched anything, you tracked the launch, you saw the

launch bloom, you'd track it going up, you'd take pictures of them, and you'd say it was a (certain type) of satellite, or whatever it might be. What has come apart from the mid-1980s when we did that, and now when you say, "We have catalogs that say there's an object up there, but we don't know what it does."

A: First of all, I think, Tom, you may be overestimating what our capabilities were back then, to be able to truly determine what it was and what its intent was and what its capability was. And I would say that, again, we had a pretty specific and unique focus and a limited threat base on which to focus. That's broadened today. The battlefield is broadened.

Q: Roeder: Is it a hardware solution, or is it an intelligence solution?

A: I believe it's both, Tom. I believe it's both. There's no single silver bullet to solve this issue or to advance the technology. You need to increase the intelligence focus, which means you need the kind of folks with the skills to be able to take information in from the space environment, analyze it and make an assessment. The knowledge base you need to do that is different than the knowledge base you need for air-breathing intelligence, land intelligence or naval intelligence.

We had a large number of people doing that before the Cold War ended. And, as I said, I think, rightfully so, we downsized when that threat went away. If you just look at the sheer numbers of people focused on space intelligence today, you could say it's time to start building up that expertise.

In the technological areas, again I think a lot of it has to do with us taking a good hard look at what we have and how we knit it together and how we bring that information forward to the commander. A key element in my mind is time. If it takes us six months to figure out what it is and what its capability is, okay, well we can do that. My vision is (to know) within one revolution. So it comes off the pad and goes around the Earth one time. Now I can ask General Shelton, "What was that, what are its capabilities and what can it do?" That's what you call a "stretch goal" to be able to do it that fast. That's the kind of responsiveness that you need. And that doesn't happen just by being surprised by a launch. You have to be watching for it, your intelligence has got to be building up toward it, you've got to have a certain set of knowledge and data before the launch even happens. Then once it gets up there are certain key questions you've got to answer. Is it just one payload? Did multiple payloads come off? Were there riders on it? Is it doing what we think it was supposed to do? Is it maneuvering? If it maneuvered, why did it maneuver? How long did it take us to figure out that it maneuvered -- three days, four days probably?

So speed to me is important on bringing that information to the commander. How quickly we can bring that information to him? Then, how can we display it to him? Today a lot of the way we do business the fusion machine is in the commander's head. We have technology to do better than that. You walk in to an air operations center today, and what do you see on the wall? Giant videos of what is up in the airspace -- good guy, bad guy, friendly, unknown, where they're headed, what speed, and at what altitude. You don't have that today in the space environment because we just haven't been able to infuse the technology.

Q: Scott: I was here for a briefing several years ago, and I was told that you (AFSPC) were developing space lasers and equipment like that so that if you needed to, you could take another satellite out, or if someone was trying to take ours out, you could respond. Where do we stand on that? And I don't know if that violated international treaty, but you were actively working at being able to do that. Is that still on?

A: Well, first of all, let me talk about what is in the treaty and what is not in the treaty. The only treaty that the United States has signed to my knowledge is the one that we signed with the Soviet Union with regard to space in which we said we would not put nuclear weapons in space. It's a good treaty. I don't think we've signed anything else. So that's the limit of our treaty obligations right now.

I think you're correct. Back in the days of the '80s -- it was called Star Wars at the time -- the construct up here we were looking at, as a nation, was space-based laser capabilities. It's a big technological challenge and we're not doing that now. I mean, we're not actively looking to deploy something like that or anything, because I think there are huge technological challenges up there before you do that.

“Crossing the Rubicon” into offensive capabilities into space is an interesting discussion. I think in some respects it’s kind of moot. A couple of areas to think about: people talk about, well, we’re against militarization of space. What do you mean by that? Does that mean you don’t want military communication satellites up there? Does that mean you don’t want satellites up there looking down at the planet to tell the United States of America that somebody’s launched a rocket at us? You don’t want that? I don’t think that’s the answer. I think we want that. We don’t want GPS? Okay. The military put GPS up there. The military sustains GPS up there. So, I mean, this discussion on militarization of space is kind of an interesting one.

Also, in my view, the discussion on weapons in space is kind of an interesting one. You know, I flew on the space shuttle. The space shuttle can rendezvous on things, it carries a remote manipulator arm up there that can reach out and grab things if they’re cooperative. I mean, the technologies, the capabilities that are required to be able to go up to another satellite and do something to it exist in multiple countries around the world today. So, I mean, the capabilities are there. But, you know, we’re not talking about doing that kind of stuff right now.

Q: Weller: The other part was defensive technologies ...

A: Right. And here’s my focus. Focus is number one. You can’t do anything up there if you don’t have situational awareness of what’s going on. That’s step one. And then after you have that you can start thinking, or as you’re doing that you can start thinking about how you’re going to meet what is, I think, our responsibility, and that is making sure you can defend those capabilities, or make sure those capabilities are provided to us when we need it.

Q: Weller: In Satellite Magazine, I think you were quoted as being a little unhappy with the pace and cost of developing the hardware that we needed to do what’s necessary to get that thing on the “first rev.”

A: Well, I think I may have been misquoted there. Well, there are two things. One is, with regard to space situational awareness, I’m saying I want to increase focus on making sure we make the investments in that, which includes the intelligence side, the human capital investment as well as the investments that I’ve talked about earlier to provide General Shelton what he needs out there. And part of that is moving the 1st Space Control Squadron out there and upgrading their equipment. The other thing I think you’re quoting is perhaps from the Army (Lt. Gen. Larry Dodgen, Commander, U.S. Army Space & Missile Defense Command/U.S. Army Forces Strategic Command and Joint Functional Component Command for Integrated Missile Defense) who said that the cost of overruns has impacted the ability to bring certain capabilities to warfighters in general, whether they be Army, Air Force or Marines. And I don’t argue with that, that’s why we are focused in this command on SMC, and one of our major jobs, which is bringing in new capabilities, developing those satellites that are reconstituting our constellations up there, bringing them in on time and on cost, and with the capabilities we advertise for them to have.

That’s fair criticism in my view of past performance. By the way, I don’t think that’s strictly an Air Force problem. I think we have problems in this country in acquisition fields, whether it be Air Force or other agencies, and it’s not just a space acquisition problem. We have challenges in the air-breathing world, too.

Q: Foster: General, you say you want to know what’s up there and what it’s doing, but is this entirely a technological solution? Don’t you need human intelligence as part of that? Is that part of your agency, or is that something that the CIA or some other civilian or military intelligence agency would do? There are a lot of people launching missiles into space we know and probably have diplomatic relations with. Most of the nations who are launching into space, we have an idea of what’s going on up there.

A: Not always, Dick, not always. Just because you have diplomatic relations doesn’t mean you know what they’re putting up on top of their rockets. We have some nice treaties around the world to talk about, and where we advise each other internationally -- those who are signed up to it -- that we’re getting ready to launch something, which is nice. It kind of lowers the tension level when we see something come off

the launch pad that doesn't surprise you because you knew it was coming. But there's nothing that says you have to be showing other people what it is you're putting inside the shroud on top of there.

Dick, I agree with you. This is not just about getting stuff; it's about human capitalism and the expertise in that. The Air Force is a part of it -- it's not just the Air Force ... it's the defense intelligence agencies or it's our large intelligence agency, the Department of Defense. And, again, it's about focus. And that's why I talk about these days, these times we're living in now, as kind of a turning point. We had a turning point, a tipping point, at the end of the Cold War where we saw a downturn. I think now the environment that we see today and we see as potentially coming in the future, we're at another turning point and now is the time to make those investments, both physical and capital—capital and human—just as you pointed out. You need both.

Q: Mike De Yoanna, Colorado Springs Independent: General, the Russian capabilities for tracking missile launches or declining their satellites, how does that affect the way you're looking at the situation here? We're moving into space superiority more or less and the Russians ... are using their ability to (determine) whether or not something is being launched at them. Are you worried about that situation, and do we share information?

A: Well, we do share early warning. I don't know that we do ... specifically with the Russians. I'll have to get back to you on that one. I'm a little short on that area. What I do know is the Russians, after the end of the Cold War, they had some serious financial issues. And I know some of their satellite constellations degraded. I'm not so sure they're walking away from that. I'm not so sure they're going to walk away from that as a nation, early warning. I can tell you we're not going to walk away from it, and that's really where my focus is, on our capability to provide early warning to this country if we're under attack, and beyond that, as we've learned in Desert Storm, and we have delivered since Desert Storm, our early warning to our deployed forces anywhere in the world if they have come under missile attack. And so my focus is on what we bring to the fight and to make sure that we bring that capability to not only the President and our homeland here, but to our deployed warfighters around the world.

Q: Scott: What will space-based surveillance system do for us in terms of SSA?

A: We think it will help us tremendously. It'll help us ... better see what's up at the geostationary orbit. And what is exciting to me about it is we start developing these kind of capabilities ... — the important end of it is getting that information down and getting it into a fused environment and displaying it to the commander. And that's what we'll be able to do out at Vandenberg as we move the First Space Control Squadron out there and get them the right equipment. Because we have multiple sensors that we're using to look up at the heavens that includes radars, that includes telescopes, optical systems. We've done some work with an experimental satellite called MSX and based on the results of that satellite's ability to look up at the heavens from low earth orbit, we laid out the space-based space surveillance program. Because we saw that it provided a great benefit, this one satellite. So how do we use space-based architectures, land-based architectures, radar, telescopes, optical, to improve this space situational awareness. This is where I get back to my earlier point ... some of this is talking about how we network this all together, bring this information together and fuse it in a picture that the commander can see and understand in a timely fashion. And that's one of our big challenges. In fact, tomorrow we're going to have an internal focus day on space surveillance and what have we got out there, what are we planning to buy, what are we planning to upgrade. And have we got it right?

Q: Scott: We have the equivalent of Rivet Joint in space for instance, is that going to be a part of the SBSS or not?

A: The equivalent of Rivet Joint. I don't think it's that. I don't draw the equivalence. I think it's an optical system ...

Q: Weller: Are you concerned about what is up there now or what could be up there in the next six months?

A: Both. I want to make it clear, it's both. Because there's stuff that we know is up there, we don't know what it is, or what its intent is or what its total capability is. That's a reality.

And this gets a little bit back to why it's important to move the First Space Control Squadron and upgrade their equipment and get them integrated ... change their focus, if you will. In the Cold War, and I'd argue even almost to today, when a rocket comes out of a foreign country, the first and most important question that has to be answered by the folks who work in Cheyenne Mountain is, is this rocket ballistic or is it going to space? Is it a space launch or is it going to go up and come down someplace? That's question one. And if the answer to that question is it's going to space, today we relax, okay. If the answer is it's ballistic, the next question we've got to answer is where's it going? And then we ask, are you sure? That's (the) missile warning mission, in my view, for protecting the United States of America. And why that has to be so one-hundred-percent accurate is because if you answer yes to those three questions you're going to pick up the phone and call the President of the United States. But today when it goes to space, we relax. What I'm saying is we can't relax anymore. Now when it goes to space we ... we've got to be thinking ahead before it gets up there. When it does get up there we've got to be answering some other key questions. Where's it going? What is it? What's its capability? What's its intent? ... And once it's up there, is it maneuvering? Why? Is it a threat to our assets up there? If so, what can we do about it? That's space situational awareness.

Conclusion: Well, I just want to close by thanking you all for coming out. This is so important to have the opportunity to visit with you all, and I ... welcome you back, and I look forward to an open dialogue with you during my command. I think one of our big jobs in service to our country is to tell our story, tell what we do and why we're doing it, answer the questions that demystify what we do for the taxpayers of America, which I am one. I know I don't appreciate it when things are going someplace and I don't understand it. And so I want to help get the word out and answer your questions any way I can and be straightforward with you, tell you what I'm thinking when it's my opinion. I'll tell you when it's my boss's position. Which I'll tell you right now, there's no daylight between me and the Chief of Staff and where we're heading in the United States Air Force. I think our value here is to push forward our concerns. And we now — we have today in our Air Force, and with our Chief, General Moseley, I'll tell you, he's very focused on Air Force Space Command, very focused on it. And I think it's a great time. I think he also appreciates, without putting words in his mouth, he appreciates that we're at this turning point in our history and it's time to start adjusting focus here back toward space. So thanks again. Appreciate it.