General Norton A. Schwartz

“Warfighter Perspective: Operational Effectiveness in Space”

Global Warfare Symposium

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General Schwartz: Sandy, thanks very much. Good morning all. I am very fortunate in that -- Can you imagine having a Secretary of the Air Force like Secretary Reed? Can you imagine what a great period for our Air Force that was? We have a Secretary like you, sir -- Mike Donley. It is a special privilege to serve with you, sir, and thank you very much again for all you do on behalf of our airmen and their families. Thank you, sir.

[Applause].

I should also recognize Tom Sheridan for being such a good host. And thanks again for all the people from SMC for working so diligently to support and encourage attendance at this very important event.

Before I continue, I’d also like to acknowledge two other folks. Imagine, if you will, being a plank-holder, starting something new. Certainly you got a sense of what that was about with Frank Klotz earlier with Global Strike Command.

Major General Dick Webber is here as well, as the first commander of 24th Air Force, our collective effort to make sure that our Air Force is again properly positioned, properly focused, properly equipped and trained for this new national security dimension. So I’d like to recognize, in addition to Frank, if he is still here, but certainly to Dick Webber for your commitment, your willingness -- both of you -- to take on challenges that appeared insurmountable and for executing them so well.

We now have a Global Strike Command, as you’ve heard; and we certainly have a 24th Air Force which is kicking ass in the cyber area. So to you two, thank you very much as well.

[Applause].

Finally, thanks to the AFA team, to Sandy and Mike and all. It’s a great pleasure to be here at this symposium, and not just because it’s enjoyable to be in these surroundings. Really, I’m pleased to be here because I get to be with Space Command airmen. And particularly from our California-based organizations, the Space and Missile Systems Center, 14th Air Force, and of course the 30th Wing.
I also would like to thank our dedicated partners in the space industry for teaming with our airmen and Air Force civilians to perform truly vital work on behalf of the nation. Secretary Donley, as you heard earlier, and I, are very proud of your accomplishments and we thank you sincerely for your collective efforts. Like the nuclear enterprise, the space business is kind of a “show me” business. It’s a very demanding area and very unforgiving, and you do it so, so very well.

Ladies and gentlemen, we are fortunate to have I uniform, I should say in this forum, another opportunity to discuss opportunities, issues and challenges, and recognizing again the wide-ranging opportunities as Bob Kehler alluded to earlier, that are before us.

We can dwell on the challenges if we want, but the reality is it is much better for us and it is more Air Force like instead to dwell on the opportunities as Bob suggested earlier.

With our nation’s broad dependence on space from civil to commercial to national security, and a number of amazing capabilities, it would be fair to say that space in some way affects the lives of practically all Americans every day. Space-based capabilities keep us closely connected. How many of you have a Blackberry or an iPhone on your belt? Hopefully it’s on silent right now. [Laughter]. Or you’re accurately located or informed practically up to the minute, thereby ultimately shaping how we view, interact with and affect the world in which we live.

Operationally capabilities from space systems in a mere couple of decades have progressed from their originally stovepiped systems which were limited in scope which you, sir, know so very well from your days in the NRO, to the presently integrated, networked and broad-reaching applications. Our space mission has evolved from formerly unchallenged to now, as you heard, contested, certainly congested, with more than 60 nations or consortia that currently operate in space as well as non-govermental entities that offer capabilities and service to access and exploit space-based capabilities.

And perhaps most dramatically, the characterization of our dependency on space has developed from the merely useful or advantageous to now critical and essential to our broader mission.

Across multiple sectors in our society -- financial, commercial, civil, military, social, certainly others -- our nation is currently more dependent on space-borne capabilities than is any potential adversary, or is likely to be for some period of time. And with this disproportionate reliance and the advantages it confers also some asymmetric vulnerabilities.
What might be a relatively minor disruption for a less space
dependent nation could be a consequential shock for ours. And as
technology continues to effectively lower the barriers to entry,
and enable more actors in this vital and increasingly competitive
domain, both the capability and vulnerability gaps are likely to
narrow.

But for the foreseeable future we will face the possibility
of cunning or aggressive acts by adversaries to leverage this
current reliance and exploit our potential loss of wide-ranging
capabilities.

Our challenge, our challenge, is both to mitigate the risks
that are associated with this sort of a challenge and to minimize
the negative consequences which likely would be, again, both
substantial and potentially far-reaching.

Exacerbating our challenge is fiscal austerity that will
likely diminish our purchasing power in the midst of increasing
operational demands. The economy continues to recover only
modestly and consumer confidence in employment rates are lagging
in the near term. And for the foreseeable future we will continue
to face trillion dollar deficits and growing national debt,
presenting further uncertainty for long term defense resource
availability.

The economic condition compels the Department of Defense
toward greater efficiencies and more disciplined spending. To
meet this challenge, Secretary Gates directed the services to
produce for fiscal years 2012 through 2016 a total of $100
billion in efficiencies, of which the Air Force’s share is about
$28 billion. Our focus is reducing administrative and overhead
functions and costs in order to free up resources for direct
investment in modernization and recapitalization and other
efforts to improve our warfighting capability.

All of this requires us to concurrently balance the
competing demands most significantly between fulfilling today’s
needs in what is largely a counterinsurgency environment and
preparing for tomorrow’s potential challenges in either lower or
higher end larger scale contingencies.

Our strategy also involves balancing modernization where we
can and recapitalizing where it is no longer cost effective to
upgrade our legacy systems. Of note, upgrades are not typically
possible for on-orbit systems.

It is also important to note, as well, that three of the Air
Force top investments in terms of pure dollars are space programs
with the Space-Based Infrared System that the Secretary addressed
earlier; certainly global positioning that Bob talked about; the
Evolved Expendable Launch Vehicle join the KCX, the F-35, the F-22 and the MQ-1 and MQ-9 Predators and Reapers as the top Air Force acquisition priorities.

It is therefore important for this particular audience to keep efficiencies in mind as we further refine our modernization and recapitalization strategy.

While the Air Force Under Secretary and the Vice Chief of Staff are overseeing the service-wide efficiencies effort, success will only be achieved with buy-in from airmen and industry partners from all levels.

Secretary Donley and I are counting on you in this room and others like you to help us adhere to developmental timelines, to deliver to program expectations, and hold leaders accountable -- military and civilian.

Incidentally I guess I should ask, it’s Colonel --

Voice: Roger Tieg.

General Schwartz: Colonel Tieg is here, I believe.

[Laughter]. I guess I should ask, Roger, what the hell you're doing here instead of running your program? [Laughter].

Just deliver, big guy. Just deliver. [Laughter].

Beyond our formalized efficiencies programs we will rely on innovative ideas and promise greater streamlining opportunities, both domestically and internationally.

The Air Force will play a significant role in meeting the intent of the National Space Policy to increase interagency cooperation, collaboration, information sharing, and alignment of common pursuits across civil and national security space.

I’m proud of our efforts thus far. For example, with planned establishment of a formal partnership between the National Aeronautics and Space Administration, the National Reconnaissance Office and the Air Force in creating, acquiring and sustaining launch vehicles, bases and ranges.

This proposed partnership, moreover, is a fitting example of further reaching out to our commercial space sector and helping to foster steady growth and ensure its long term viability.

Nations that actively promote and participate in commercial aspects of space stand to gain advantages in cost sharing, dynamic innovation and more robust research, development, testing and evaluation of new technologies. But we are cognizant of challenges for the commercial space industry that we must address
-- particularly with waning capital to fund expensive future investments and advanced space capabilities. And probably most important, with attracting, recruiting, developing and retaining a highly skilled technical workforce.

We recognize that the strength and vitality of the civil, commercial, and national security space sectors individually and collectively greatly affects the nation’s strategic outlook and ultimately our national security. So I look forward to increasing our efforts and finding other opportunities to team with our interagency and private sector partners in collaboration and in a collaborative whole of nation effort to maintain and hone our technological edge, our human capital, and importantly, our production capacity.

We also have potentially fruitful opportunities with international partners. The National Space Policy calls for expanding cooperation globally to broaden and extend the benefits of space such as our partnership, as the Secretary mentioned, with Australia on Wideband Global System SatCom and the recent plan approved by Secretary Gates to cooperate on space situation awareness activities. Here we have the opportunity to strengthen partnerships and partner capacity and to coalesce broader support for our shared objectives. Moreover, to forestall potential aggressors from taking detrimental actions against our systems. We can further benefit from potentially broader support from international stakeholders as we develop and promulgate deterrence policies and measures to counter harmful acts and threats in space.

In the end as we forge and advance our international partnerships, it will be largely about greater synergies and efficiencies that we can achieve by collaborating on our efforts and sharing possible resources for funding, operations, maintenance and modernization.

I know you've heard about contested and congested and competitive. I would just say another C word, collaboration, Mr. Secretary is also a by-word.

Closer to home our efforts in space profoundly affect the efforts and the success of the joint team. The U.S. military absolutely depends on space-based capabilities that airmen provide, affecting in some way virtually all aspects of operations worldwide. Space-based capabilities enable the Air Force’s ability to provide our nation with global vigilance, reach and power. The ability to discern, to rapidly get to, and deliver tailored, timely and precise effects on precisely any target anywhere on the planet.

As I recently elaborated in remarks to the National Homeland Defense Foundation in Colorado Springs a few weeks ago, our space
dependent exploitation of cyberspace and advanced information technologies enable us and the joint team to properly command and control our forces. We talked about NC3 earlier. Here is another case in point.

To be sure, binding virtually all of our advanced capabilities together into networked and synchronized and precise operations depends on support from above. And to put it simply, global vigilance, reach and power is the Air Force family business of which all of you are an important part.

One could say that this strategic orientation in large part drives our reliance on space and cyber capabilities from space surveillance and warning to precision navigation and timing. To global satellite communications to space and cyber. Assets afford us with distinct and unmatched advantages and accuracy, precision, connectivity, and certainly in situation awareness.

For example, space and cyber power, as Bob suggested, help enable our remotely piloted aircraft which provide unparalleled intelligence gathering and facilitate processing exploitation and dissemination of analyzed and time sensitive information, reducing strategic surprise and decreasing battlefield guesswork. This capability is critical to national decision-makers and the company commander alike.

As we move toward achieving 50 remotely piloted Combat Air Patrols by the end of fiscal 2011 the demand for bandwidth is surely to increase. Therefore the addition of SV1 into the AEHF constellation will be vital as it secures protected and survivable communications capability that will contribute to meeting this demand.

Secretary Donley, sir, I know I speak on your behalf when I say that we would like to publicly thank the AEHF team of airmen and industry partners who are putting forth a tremendous effort to overcome the current contingency and execute the alternative orbital plan to get SV1 into its proper operational location.

As a member of my staff -- once an orbital analyst himself, a real rocket scientist, if you will, for two geosynchronous launches that had some similar contingencies although less demanding than the current one. He explained to me that the way ahead for SV1 involves a series of thruster firings at apogee, raising and circulating a series of intermediate orbits and drifting it to a test slot and eventually to an operational slot in geosynchronous orbit. I appreciate that the plan to get SV1 into the right orbit is a very complex and elaborate process and will keep our team extremely busy for some period of time.

Secretary Donley and I look forward, however, to its planned August 2011 arrival at its test slot. In the mean time we offer
our full support and encouragement to this dedicated team of airmen and contractors.

Also responding to increased demand for intelligence, surveillance and reconnaissance is our current effort with operationally responsive space. With ORS-1 we will provide increased capacity to monitor U.S. Central Command high priority focus areas, thereby boosting critical situation awareness for the warfighter. But ORS is much more than just providing ISR or any other single capability for that matter. As a concept ORS will be an architecture that will leverage existing lower cost space-launched vehicles and payloads as well as develop future components in an integrated fashion to respond in a timelier manner to combatant commander requirements. Its interoperability with current and future architectures will assure the necessary versatility and complementary capability with existing systems.

This is exactly what we need. Innovation and greater efficiency as we contend with ongoing fiscal constraints.

In the case of ORS-1 we will be able to maximize the use of existing USCENTCOM airborne tasking, data processing and dissemination capability, their TPED system, and synergize with current organic airborne assets. Ultimately to enhance our ability to monitor denied or contested focus areas. As we design future ORS systems we will use the ORS-1 model with lessons learned to design other versatile systems in a range of capabilities among differing payloads.

I see ORS as a way toward conceiving and cataloging future interoperability between satellite buses and payloads, space-launched vehicles and appropriate command and control capabilities -- all developed to common technical and procedural standards for maximum versatility and enhanced affordability.

This is vital, ladies and gentlemen, because as we move forward fiscal constraints will affect our ability to meet our challenges in space. We will require, as Bob suggested, greater innovation in the design, testing, evaluation and fielding of payloads and spacecraft alike. Innovation is and certainly must be the lynchpin.

As it pertains to space innovation, can engender increased versatility in the form of satellite buses that accommodate multiple payloads. Payloads that can be integrated on board different satellite buses, and buses that can be launched on yes, different space launch vehicles.

The inherent versatility will take us a significant way toward increasing our resiliency in spaceborne mission essential functions for which we have a National Space Policy mandate.
But we must do even more. The enormous complexity, both technologically and operationally of spacecraft, payloads, launch vehicles and associated communications and command and control architectures require sharp and creative minds to develop an equally intricate taxonomy of resiliency measures. This will affect an adversary’s calculation of costs and risks and benefits in any aggressive design against inherently robust, highly resilient, space enhanced U.S. forces.

We can do more to enhance our abilities in space control and space situation awareness and threat attribution as well, which in addition to providing us more robust capabilities ultimately will help deter aggression and to discourage escalation into conflict and conflict into larger scale war.

As an Air Force, but especially for space professionals in this room, we are on the verge of an exciting future. I cannot over-emphasize how critical your effectiveness to the success of your Air Force, how critical it is to your Air Force and to the success of the joint team.

But again, our substantial dependence on space and cyberspace does create vulnerabilities that our adversaries might exploit -- an outcome with potentially profound strategic implications.

Therefore, as reliant as we are on space, our efforts to protect our interests in space must also be equally ambitious and determined. We must be able to deter and defend against attacks on our space and cyber capabilities, operate through disruption, degradation and even denial of vital capabilities. And conclusively attribute suspect activity in order to preserve the prospects of greater benefits from our investment in space.

You’re already aware of how much the nation depends on you but let me add another dimension to the discussion of why it is absolutely critical that you do your jobs well. You have a significant effect on the nation’s overall ability to deter aggression. As your professional experience and expertise and effort enhance our capabilities in space control, in space protection, mission assurance and threat attribution, these developments will also help to advance our still nascent experience in space deterrence.

Ultimately this will have an effect on our overall preparedness and deterrence posture, further convincing potential adversaries that the costs and risks of aggression or crisis escalation will outweigh its benefits in space or elsewhere.

To that end, ladies and gentlemen, our commitment is firm and our resolve is certain. With daunting challenges, but
together we will continue, all of us, to do what is difficult and more importantly to achieve what is worthy.

Space has been described in the Secretary’s speech and elsewhere as increasingly congested, contested and competitive. Again, I would offer that increased cooperation and collaboration is a solid beginning to address this trend.

Before I conclude let me also acknowledge a very special group here today. There are many of us, all of us on the front row, in fact, who are getting ready to check out and there are others further back in this great room of ours who are just getting ready, either have just come aboard or will soon do so. May I ask the cadets and let’s say the lieutenants in the room and the staff sergeants to stand up for just a second?

Look. You have an astounding opportunity in front of you. The chances to run a program like SBIRS, the chances to serve, the chances to be part of Secretary Reed’s legacy. That’s what we have in front of us. This is not a time to be timid. It is not a time not to be bold as our outstanding airmen represent us so well every day.

To you, the future is now.

Ladies and gentlemen, thank you very much. Let me offer congratulations to those of you who will soon or have just now moved out on a path to pick up the torch. I thank all of you. Our airmen, certainly our Air Force civilians and our industry partners as well for your tremendous professional efforts and yes, your quite remarkable contributions to our Air Force and the nation. I sincerely wish you all the best, look forward to the gala event this evening, and I’d be happy to take any questions that you might have.

[Applause].

Moderator: General Schwartz, I’m taking the prerogative of the chair to just make this comment. Your complimentary remarks earlier to Secretary Donley, Secretary Reed, certainly well spoken. But it’s also appropriate to thank you at a time of war, budgetary constraints and a changing political environment, for your outstanding leadership of our Air Force. Thank you, sir.

[Applause].

General Schwartz: It’s easy to be Mike and Gail Donley’s partner.

Moderator: I believe it.

Now I have these tough questions.
General Schwartz: General Kehler, are you ready? [Laughter].

Moderator: The capability, the vulnerability, the challenges you spoke so well about that, sir, the industry share, the responsibilities. Yesterday we had a panel, you were not here but there was a panel that talked about some of the challenges in acquisition and there was one speaker in particular who talked about what he felt was a lack of innovation, and other speakers talked about the fact that we’re risk averse.

How do you think as we go forward we need to address the reward for those who are willing to take measured risk to achieve the objectives that we so much want to achieve?

General Schwartz: Risk and reward is sort of an American phenomenon. It is in our DNA. But it is also important in the current setting in which we find ourselves to assure that we deliver on our promises.

I think the key thing here is that we do need to continue to think about the possibilities, and certainly there’s no domain where that applies more than in space. But I do believe at the same time that this is a particular moment when it is important for us to deliver and that might mean being slightly less ambitious. It might mean being slightly less bold in terms of development.

We have a $2 billion effort underway in R&D. We have to be bold there. That when it comes to fielding systems, ladies and gentlemen, it has to be done in a way that promotes confidence that we know collectively what the hell we’re doing. And that means cost discipline, timely delivery, and making sure that the systems are not developed in isolation but rather are part of this larger tapestry of capability which we and others in the department and the national security community field.

So your panel I think touched on a very important point, and I would suggest that we want people who are in the conceptual part of our organizations to think big and to have those ideas about the possibilities, but those that are in the fielding portions of our organizations, of our acquisition entities, need to think about performance, delivery, cost, as the first imperative. That’s my sense.

Moderator: Thank you, sir.

There is a danger, a perception danger, that because we have controlled the skies for so long and done such a marvelous job, that we will always control the skies, and the same danger exists in space. Clearly a day without space would be a real issue for
us, yet some think that the joint force, perhaps the Congress, the American public would never consider such a thing because we have done such a marvelous job, our airmen have, in making that secure. Do you feel that will affect our funding issues going forward?

**General Schwartz:** Let me just make one point as well, Sandy, that Tom, you should take pride in the fact that you’ve had 70-plus launches consecutively. Knock on wood, right?

[Applause].

And everybody here. The truth of the matter is, that’s delivering. So please take pride in that.

With respect to what I would call domain control, Sandy, this is an enduring capability of our Air Force. Whether it is in the air to assure that our joint teammates in the other dimensions of the battlespace -- land, maritime and so on -- have the freedom of action to operate without concern for attack from above or whether it’s domain control in space and all that entails so that those vulnerabilities I addressed are mitigated. Control of air and space remains an enduring function of our Air Force and yes, we will continue to make a substantial investment in those capabilities going forward. No question about it. And I can assure you that our joint team mates have no interest in operating without the capabilities that our Air Force provides.

**Moderator:** Sir, could you expand a little bit on your talk about external partnerships, partnerships with our allies in terms of space?

**General Schwartz:** I think the Australians are a good example. They essentially put up I think some $700 million in order to buy into WGS constellation. The agreement recently struck between the Minister and the Secretary allows us both to have better space situation awareness capability. These are the kinds of partnerships that will allow us I think to have the capabilities we need to share the cost burdens involved.

But very importantly, to enlist an array of nations in the continuing productive use of space for both civil and national security purposes. The more nations that have a stake in this, the better, and it seems to me that’s the path we’re on.

**Moderator:** Sir, we have run out of time, but let me thank you so much and tell you that it’s personally a joy to be able to be up here on stage with you, so thank you for coming.

**General Schwartz:** Thank you very much.

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