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UNTIL RELEASED BY THE
SENATE ARMED SERVICES
COMMITTEE STRATEGIC
FORCES SUBCOMMITTEE

STATEMENT OF

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COMMANDER, AIR FORCE SPACE COMMAND

BEFORE THE
SENATE ARMED SERVICES COMMITTEE
STRATEGIC FORCES SUBCOMMITTEE
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Introduction

Mr. Chairman, Senator Nelson, and the distinguished members of the Committee, it is my distinct honor and privilege to appear before you today and represent the almost 40,000 space and missile professionals in Air Force Space Command. I am pleased to serve with and join the Acting Secretary of the Air Force, the Honorable Pete Teets here today.

Our Nation has developed the most capable space and air forces the world has ever seen. The contributions of our United States Air Force have been truly remarkable at a time when our Nation has needed us the most. Our great leaders and my fellow generals in the United States Air Force are certainly proud of each and every Airman as they dedicate themselves to the defense of this great Nation. I look forward to reporting to you on the strong and confident state of our Space and Missile force, our well documented successes over the last year, our priorities for the coming year, and the challenges we are poised to tackle.

Proud of our Joint Team of Space Professionals

Modern warfare is not conducted by one Service alone. And I am truly grateful to my colleagues in the United States Army, Navy, Marine Corps and Coast Guard. I am honored to be joined by the Commander of United States Strategic Command, General James “Hoss” Cartwright, United States Marine Corps. I am also proud to be joined by Lieutenant General Larry J. Dodgen, Commanding General, Army Space and Missile Defense Command; Vice Admiral Joseph A. Sestak, Deputy Chief of Naval Operations, Warfare Requirements and Programs; and Brigadier General Thomas Benes, Director,

Strategy and Plans Division, Plans, Policies, and Operations Department, Headquarters, U.S. Marine Corps.

Space capabilities are inherently joint, and we all know you cannot go to war and win in the modern era without the battlefield effects provided through and from space. Therefore, it is only fitting that we appear here together to discuss the importance of defending our Nation through space and Intercontinental Ballistic Missile (ICBM) operations. Our Air Force Space Command operations project global reach and power for all our combatant commanders and their joint warfighters. I applaud the effort of this committee to continue our discussions on the importance of National Security Space as a joint team. Space capabilities significantly impact the flow of National and international commerce and we need to understand the significance of this from the Main Streets of America to Wall Street.

I want to express my sincere gratitude to Senator Sessions and every member of this committee, for your continued support of military space, and the development of our Nation's space capabilities and professionals. The commitment and dedication of this committee provides critical support to our dedicated space and missile professionals and this fact does not go unrecognized in our military circles or by the American public.

Support to our Nation's Global War On Terrorism

I would like to start by briefly describing some of the capabilities Air Force Space Command provides daily in defending our Nation's interests at home and abroad while protecting the lives of our fellow Soldiers, Sailors, Airmen and Marines. The road to space starts on both coasts at one of our Nation's two Space Launch bases, where we provide services, facilities and range safety control to conduct launches of Department

of Defense (DOD), NASA, other national and commercial payloads. Once our payloads reach space, our satellite operators provide force-multiplying effects. Space capabilities are no longer nice to have, but are now indispensable to how we fight and win our Nation's wars.

Our people and space systems provide critical in-theater secure communications, warning of ballistic and tactical missile attacks and precise navigation for ground, air and sea operations to name a few. From the earliest weather predictions to the latest Battle Damage Assessment, our National leadership depends upon space capabilities to plan and execute all operations across the spectrum of conflict. Our ground based radar and Defense Support Program satellites monitor ballistic missile launches protecting our Homeland and our forces deployed worldwide.

In keeping with our 23 year tradition of protecting and projecting America's interests in space, Air Force Space Command provides vital information on the location of satellites and space debris for the Nation, our Allies and the world. America's ICBM team also plays a critical role in maintaining world peace and ensuring our Nation's steadfast security. Our ICBM forces offer an extraordinarily capable and proven strategic deterrent with a readiness rate above 99 percent. We owe a debt of gratitude to our ICBM professionals: maintainers, operators, security police and support personnel who serve in the northern tier states of our great Nation for everything they do each day to ensure our Nation's security.

Air Force Space Command is truly a "global command," from our CONUS based Launch Control and Space Operations Centers to our deployed Airmen and systems worldwide. Our former Secretary of the Air Force, recently said, "We look at Space

capabilities like oxygen. If you have it you take it for granted. If you don't have it, it's the only thing you want." We know you cannot survive without oxygen and our armed forces are realizing we cannot have success on the battlefield without space. Air Force Space Command maintains worldwide vigilance and global awareness around the clock, but we also provide tailored combat effects to our theater commanders and their joint warfighters.

During Operation IRAQI FREEDOM, American forces transformed modern warfare and the basic principles of war. Thanks to space and our evolving technology, a single bomber aircraft can deliver the same effect as hundreds of aircraft during World War II. Space has allowed us to advance the principle of maneuverability to an unprecedented level by allowing our forces to be faster, more versatile and quicker to react than ever before. Throughout the history of warfare, speed has always been the warrior's lifeline. Today, we rely on the speed of information and the data flow our space capabilities provide to, and in the theater of operations. Over 60 percent of the communications flowing into the area of operations at the height of Operation IRAQI FREEDOM traveled through satellites on orbit, and we provided 100% of the secure satellite communications.

In a matter of minutes, not weeks, hours or days as in past wars, commanders are able to Find, Fix, Track, Target and Engage adversaries while receiving more timely Battle Damage Assessments. The message is crystal clear from our comrades in arms, leaders like Lieutenant General Lance Smith, the Deputy Commander of United States Central Command, who stated, "You space [professionals] are providing us our lifeline. We use it. We take it for granted, but if we ever lost it; people would die." Lieutenant

General William S. Wallace, who was the Commander of the Army's V Corps during the height of Operation IRAQI FREEDOM, echoed the importance of our space capabilities when he said, the communications provided by our satellites "were the lifeblood of the Division/Brigade in the attack."

One of the biggest problems we face as a military is the ability to conduct precision attack against moving targets. This problem is even more difficult when the weather does not cooperate and our targets are what we call "under cover" from air, space, sea and even land assets at times. Our forces in the Pacific theater recently took part in an exercise to prove we could respond within hours anywhere in the Pacific theater in any type of weather condition, day or night to provide Admiral Fallon, the Commander of Pacific Command, with relevant combat capability. As with any successful exercise, there is an inherent capability to help dissuade potential adversaries. During Exercise RESULTANT FURY in November of 2004, the target set was four to six mobile and drifting sea targets. A combination of our unmanned and manned aircraft provided persistent battlespace awareness allowing our Navy F-18 and Air Force B-52 aircraft to conduct unprecedented precision strike through the use of Precision Guided Munitions using our Global Positioning System Satellites on moving targets under significant cloud cover at sea.

This demonstration of all-weather precision strike against mobile maritime targets across the vast Pacific Ocean would not be possible without integrated teamwork across the air and space community and the flawless execution of our joint team members. The Pacific Air Force team demonstrated a new capability for the

Commander of United States Pacific Command and the power of our space forces were heard loud and clear.

Not only are our space and missile capabilities available 24 hours a day to deter and defeat our adversaries when our nation calls, but we also make the battlespace safer and more secure for our United States forces. Our space capabilities play a major role in the protection of our troops engaged in combat.

Lt Col Tony Logue, while serving as the Chief of Space Operations at Headquarters, Air Force Special Operations Command, made a tremendous impact upon Air Force Special Operation's units assigned around the globe. For two years, Lt Col Logue led the effort to improve situation awareness of pilots flying dangerous missions into some of the world's most hostile combat environments. He wrote and justified with compelling need the requirement for additional Blue Force Tracker equipment (a satellite based identifier which allows us to delineate friend from foe) in support of Operation ENDURING FREEDOM.

Upon receipt of the Blue Force Tracker equipment, Lt Col Logue led a team to Afghanistan to install it and train operators on how to use it. His four person team completed installations on more than 30 aircraft in five locations, without impacting the high tempo of combat operations. Upon his return, he developed and implemented an innovative program to add Blue Force Tracker capability to all Air Force Special Operations aircraft. His planning and actions ensured all aircraft across Air Force Special Operations Command were ready for Operation IRAQI FREEDOM. His efforts resulted in an unprecedented level of situation awareness for Special Operations

Forces at every level and consequently, increased the safety of flight and decreased the chances of a fratricide incident.

Blue Force Trackers are traditionally used with our ground forces and through precise and timely integration with our space capabilities and space operators on the joint operations team, we are routinely able to see through the “Fog of War.” Together, we precisely locate our forces, preventing fratricide while enabling life-saving support and necessary reinforcements when needed. Another tremendous capability provided by our space systems is the remarkable amount of time saved in locating pilots downed in hostile territory. As the Chief of Staff of the Air Force, General John Jumper likes to say, “Space takes the search out of search and rescue.” By minimizing the time it takes to precisely locate our downed air crews, space capabilities allow us to save young American lives in harm’s way.

Our space capabilities feed and sustain our day to day stability operations in Iraq and Afghanistan while keeping vigilant watch on the rest of the world for potential “hot spots.” Space allows us to quickly switch from stability to battle operations. There’s no better recent example than our contributions through space systems to Phase IV Stability Operations in Iraq. Operation IRAQI FREEDOM decapitated Saddam’s regime in record time, but left areas of resistance in the Sunni Triangle.

Operation VIGILANT RESOLVE featured 1,300 Marines from the First Marine Expeditionary Force in Fallujah, a hotbed of insurgent activity. Marines repeatedly called in precision air strikes against individual buildings and structures harboring dangerous terrorists and insurgents. We used a combination of persistent Intelligence, Surveillance and Reconnaissance assets, on-call strike aircraft and Global Positioning

System satellites to create stunning precision strikes against individual structures in dense urban areas. The Predator Unmanned Aerial Vehicle (UAV) headed a list of high performing systems and I'm happy to report to you, the outstanding contributions of the Predator UAV were made available through constant secure satellite communications.

On one particular occasion, we targeted a vehicle clearly moving weapons between a residence and a small warehouse. US forces were watching this activity thanks to a Predator sensor transmitting through satellite communications. As we watched, the driver parked the vehicle full of weapons under the carport. We put a Hellfire missile over the wall of the house and under the carport. We eliminated the threat of the weapons with no damage to the house. Members of this distinguished committee, this overwhelming warfighting capability is made possible thanks to our space forces.

We are gathering lessons on how best to conduct urban warfare. However, we know one thing for sure, we need the persistent battlespace awareness, precision guided attack and secure, reliable communications around the globe our space capabilities provide. The use of GPS aided Joint Direct Attack Munitions allowed for substantially less collateral damage. The unprecedented precision of this weapon worked in Fallujah, and it is a great model for air and space support to future urban warfare.

We have many successful stories of Air and Space Power working together allowing the engagement of targets with dial up precision and immediate command and control. This makes our operations in sensitive urban areas more humane and less costly to innocent civilians while showing our enemies you can't hide from the United

States Air and Space forces. As you are well aware, our Nation's space capabilities allow us to place fewer people in harm's way. Combined with our air, land and sea forces, we provide enhanced lethal effects helping to bring a quicker end to hostilities.

We have embraced our role as a space faring nation and we must fully understand and appreciate our responsibilities to our joint warfighters in the Army, Navy, Air Force, Marines and in particular our Special Operations forces who bet their lives on our capabilities. Space and missile capabilities are as important to our joint warfighters as electricity is to our individual homes and businesses.

There is absolutely no doubt in my mind, our space capabilities will continue to perform brilliantly throughout our operations in Afghanistan and Iraq, and help our nation keep an ever vigilant eye on our Homeland Defense. The demand for space and missile capabilities is at an all time high. We are an integrated part of every major military operation being conducted worldwide.

In addition to being enormously successful warfighters, Air Force Space Command also experienced several recent successes in the space acquisition business. As the Chairman of the Joint Chiefs of Staff testified before the Senate Armed Services Committee last month, he stated, "Today, bandwidth demand exceeds our DOD space systems capabilities, and our Warfighting requirements continue to increase at a very high rate." During Operation IRAQI FREEDOM we were able to acquire and make eight times the amount of communication bandwidth available to our forward deployed U.S. forces.

The Space and Missile Systems Center reports seven successful EELV missions and an incredible streak of 40 successful operational launches in a row. We have the

healthiest Missile Warning constellation ever, and we have taken delivery of the next-generation Space Based Infrared System (SBIRS) Highly Elliptical Orbit satellite. We currently have 29 Global Positioning System satellites on orbit, certainly exceeding the 24 ball constellation requirement. The position, navigation and timing data continuously flowing from the GPS constellation has allowed almost 70% of munitions used in Operation IRAQI FREEDOM to be precision guided. We are constantly working to improve upon our capabilities. We are working within the theater of operations to provide the ability to predict GPS accuracy and derive time over target, weapon systems implications, and probability of kill predictions.

Air Force Space Command Priorities

The Acting Secretary of the Air Force, the Honorable Pete Teets, shared his priorities for National Security Space with this committee and Air Force Space Command's priorities are in lock step with our National Security Space priorities. I would like to outline my top priorities for Air Force Space Command in the coming year. In keeping with our command motto, "Mission First, People Always," our overall goals for Air Force Space Command remain unchanged. They are:

- To Achieve Mission Success in Operations and Acquisitions, and
- Provide for the Professional Development of our people while enhancing their Quality of Life

We fully understand our obligation to organize, train and equip our space and missile forces while our Nation remains engaged in a global war against a very dangerous adversary. Therefore, we must prioritize our efforts to ensure we are generating the capabilities and effects our nation and warfighters need most.

Our Priorities for 2005 are:

1. Ensure Space Superiority and Provide Desired Combat Effects for Joint Warfighting
2. Maintain a Safe and Secure Strategic Deterrent Capability and Provide Means for Prompt Global Strike
3. Continue Our Efforts to Develop Cost-Effective Assured Access to Space

We continually plan the pursuit of necessary transformational capabilities and effects. We work ever diligently to expand and maintain effective partnerships throughout the Department of Defense and the National Security Space arena to help us in our pursuit of innovative solutions and transformational capabilities.

Air Force Space Command ensures our Nation's warfighters have the appropriate capabilities when and where they are needed at any point on the planet. We pride ourselves in providing these joint capabilities from space. Our space capabilities are used more today than ever before in the history of our military. Our Global Positioning System (GPS) satellites have become a national resource while providing the greatest free utility in the world. The ever-reliable, constant precision navigation and timing information from our GPS satellites is used world-wide and is intertwined throughout our global economy. An attack against this precious resource would be an attack against our way of life.

In our interdependent global society, we travel to the other side of the world, and expect our credit cards and phones to work. We expect a level of performance in our businesses and an increasing level of convenience in our mobile society. We have Marines using GPS coordinates to locate and track their position in relationship to the enemy. Our military has introduced the world to the concept of satellite-aided

munitions. Space systems allow bombs to be delivered within meters of their desired impact points.

Space Superiority and Providing Desired Combat Effects for Joint Warfighting

We can no longer expect to send our Service members into combat without our space capabilities being challenged. We cannot tell our President, or any members of this distinguished body, we don't know if our space assets will be attacked. The time for speculation is over. I know you are well aware of the numerous attempts during Operation IRAQI FREEDOM by our enemies to jam the signals from our GPS satellites. We were extremely fortunate to locate the sources and eliminate the rudimentary threat. Given the proliferation of commercial technology available today, the future threats to our space systems will be more complex and difficult to detect.

We must prepare to face future threats today. My top priority in Air Force Space Command is to ensure Space Superiority. This is at times a difficult concept to comprehend. We did not choose saber rattling words. We selected doctrinal terms; words we know are well understood in the Air Force and throughout the Department of Defense. The term Space Superiority is akin to Air Superiority. We would not dream of conducting air operations without first establishing and ensuring we had Air Superiority. We are not trying to dominate, but we must protect and project our interests in the space medium. Our reliance on space capabilities has grown as a Nation and as a member of a global economy. At the same time our vulnerabilities and the threats to our space systems and capabilities have dramatically increased. We no longer need to ask if an attack of our space systems will happen, but rather when, by what means and from where?

To better understand the growing threat to our space systems, we have conducted a series of high level war games to include the recently completed Schriever III space warfare game at Nellis Air Force Base. The games are not completely predictive, but they are extremely insightful as we pit our space capabilities against capabilities an adversary may bring to bear. We use known technologies easily available to the rest of the world and combine this with the will to engage our space capabilities for advantage. The threats we face are very real and dangerous.

As our dependence on modern space capabilities grow, the need to establish and maintain Space Superiority also grows proportionally if not exponentially. It is time to proceed with the development of a more robust Space Situation Awareness architecture to ensure we adequately protect and defend our space capabilities. We all need to subscribe to a Defensive Counterspace mindset. We can't leave system anomalies uninvestigated. We must carefully track and examine the space environment to ensure we have high resolution knowledge of events. Finally, to ensure Space Superiority we must field Offensive Counterspace capabilities with temporary and reversible effects to deny an adversary the ability to exploit the asymmetric advantages space provides our Nation's Armed Forces and our global economy. Space capabilities provide a lifeline for this Nation. If we ever lost Space Superiority it would result in loss of life of our Armed Forces, lost economic viability and quite possibly a significant disruption to key National Security objectives and interests.

Safe and Secure Strategic Deterrent Capability

Maintaining a safe and secure strategic deterrent capability and providing our Nation a means for Prompt Global Strike is another top priority for Air Force Space

Command. We continue to pursue independent nuclear (Land Based Strategic Deterrent (LBSD)) and conventional (Prompt Global Strike (PGS)) options along separate, but mutually supportive developmental paths. We are excited about the work underway in our LBSD Mission Area Analysis of Alternatives study. This landmark study will help determine the capability set required to fulfill future LBSD critical mission needs. We continue to explore a spiral acquisition approach to extend the life of the Minuteman III ICBM while providing enhanced capability for our National Security. We plan to complete our Analysis of Alternatives and provide recommendations to the Milestone Decision Authority in the Office of the Secretary of Defense before the end of this year.

Space Superiority allows us to provide desired combat effects for Joint Warfighting. Space Superiority and maintaining a credible strategic deterrent force are the top two Warfighting priorities in our command. The United States Air Force's involvement in space started and grew from our early ICBM and Intermediate Range Missile programs. Our rich past in the development of space and missiles gives power to our future.

Cost Effective Assured Access to Space

We must continue our efforts to develop Cost-Effective Assured Access to space. Responsive launch capabilities have formed the foundation of our nation's space sector for decades, and we must continue this tradition of excellence with one addition. We must focus our attention on providing cost effective solutions to accessing space.

The Acting Secretary of the Air Force, the Honorable Pete Teets mentioned the end of an era in our launch vehicles in his testimony. The Atlas III performed brilliantly

during its final launch last month, and the final Titan IV vehicles are being processed for their last launches later this year. We are closing the books on these very capable and reliable boosters, and we are ready to accept the next generation of extremely capable and reliable launch assets in the Evolved Expendable Launch Vehicle (EELV) with both the medium and heavy launch classes. The future of our Nation's space faring status hinges on our Assured Access to Space. This administration and the Department of Defense is committed to securing this much needed launch capability to ensure our Nation continues to lead the world in transportation to space for military, commercial and manned space launches.

Innovative Solutions

While Air Force Space Command continues to defend the United States of America through the day to day control and exploitation of space, we provide space power to help achieve National Security and Joint Warfighting objectives. I can proudly report we are successfully accomplishing our assigned missions with an increased focus on integrating our capabilities and effects with our air, land, and maritime forces. In a world of constant change and new challenges, we cannot lose sight of the importance of improving our capabilities, and the effects we provide our joint warfighters. Our Acting Secretary of the Air Force has encouraged us to seek innovative solutions to some of our most difficult problems in the National security arena.

Joint Warfighting Space

We are intensifying our focus on providing the warfighter with more operationally responsive space capabilities. A major first step for us to achieve an Operational

Responsive Space capability is our Joint Warfighting Space (JWS) concept. JWS will provide dedicated, responsive space capabilities and effects to the Joint Force Commander in support of warfighting objectives. The Joint Warfighting Space concept seeks both immediate and near-term initial operating capabilities to meet pressing National Security needs.

At first glance, we are very excited about the increase in space capabilities available through our Joint Warfighting Space concept. We are evaluating responsive launch capabilities to meet requirements in a matter of hours. Air Force Space Command is taking the lead in integrating small and microsatellites with other operational platforms on the ground, in the air or in near space.

We are evaluating the ability to dedicate assets to real time target location, identification and tracking, predictive awareness during a crisis with a persistent capability available to the Joint Force Commander. We are committed to fully investigating the military utility of small satellites. At first glance, there is a tremendous amount of development time saved by using a common micro or small satellite bus (spacecraft structure). We will continue our military utility analysis through a series of planned demonstrations, lab experimentations and wargame exercises.

We have several Near Space demonstrations planned that we believe will lead to initial Joint Warfighting Space capability. Joint Warfighting Space consists of Near Space and on orbit space assets. We continue to work with our partners in the research and development community to provide future operational capabilities using the TacSat demonstration initiative and the Falcon Space Launch Vehicle which recently entered into design phase.

Operationally Responsive Space

A robust Operationally Responsive Space (ORS) program will provide us with a rapid reconstitution capability and the ability to swiftly augment existing space assets. We continue to work with our partners in the research and development community to provide operational utility of Small Satellites through our TacSat demonstration program. Payloads and spacecraft developed on a quicker timeline, a responsive range and associated infrastructure, and an existing responsive launch vehicle are the three main components to Operationally Responsive Space.

We are actively working to advance the technology of our Small Launch Vehicles. We certainly have a need throughout the National Security sector for a more responsive small launch capability. A small launch capability could be used for the deployment of a responsive space payload or when combined with the Common Aero Vehicle (CAV), a near-term conventional Prompt Global Strike capability. The follow-on to Small Launch Vehicles is the Affordable Responsive Spacelift vehicle. We have an approved way ahead for the Operationally Responsive Space Small Scale Affordable Responsive Spacelift Hybrid and plan to demonstrate a partially reusable system within the next several years. This will be a key demonstration and will definitely move us further down the developmental path.

We are very excited about exploring capabilities in the area known as “Near Space” at an altitude between 65,000 to 325,000 feet. From our preliminary analysis, we believe there’s substantial military utility in augmenting our current aerospace capabilities with fielded capabilities in Near Space. These Near Space platforms are

not intended to replace air or space assets, but rather to help augment and integrate additional capabilities.

We have already demonstrated military utility in expanding the range of Army radios used for contact between ground forces and to conduct Close Air Support operations. By using affordable platforms like weather balloons, blimps or air ships, we can help provide much needed persistence and direct support to our theater commanders and their joint warfighters.

Common Aero Vehicle

As I mentioned earlier, another innovative solution we are diligently working to develop is our Common Aero Vehicle (CAV) and the Force Application and Launch from CONUS (FALCON) Demonstration Program. This is an incredible capability to provide the warfighter with a global reach capability against high payoff targets. The Common Aero Vehicle matched to a responsive launch platform would provide a truly transformational capability to anywhere in the world regardless of the level of access. The Common Aero Vehicle capability could be matched against an anti-access environment and still deliver a conventional payload precisely on target within minutes of a valid command and control release order. This is the type of Prompt Global Strike I have identified as a top priority for our space and missile force.

Modernization and Readiness

We no longer have the challenge of stressing the importance of Space capabilities. Our senior commanders around the joint community, regardless of their service affiliation or background understand, you cannot go to war and win without space. The difficult challenge before us today, as a Nation and a military, is that we

now maintain our steadfast readiness in support of our on-going Global War On Terrorism. To ensure success, we must modernize the very space capabilities and assets our Armed Services and our Nation depend upon.

Our Global Positioning System satellites have revolutionized modern warfare. We are able to provide our warfighters and our National leaders unprecedented accuracy and precision strike capabilities through the use of our on-orbit assets. We must take all appropriate measures to ensure we field a capability that can withstand the robust challenges of the future. We need the capabilities provided by the GPS III program. A jam resistant, modernized version of the world's greatest free utility must be developed and delivered to ensure we have the most precise and secure positioning, navigation and timing capability not just for our military forces, but for our Nation and our global economy.

The Transformational Communications Satellite will employ Internet Protocol networks and high-bandwidth lasers in space to dramatically increase warfighter communications and connectivity. The Air Force (in partnership with NASA and the Department of Commerce) continues development of the National Polar-Orbiting Operational Environmental System, which offers cutting edge meteorological capability.

We have refocused the Space-Based Radar effort to develop a system that meets user needs for both the joint warfighting and intelligence communities. We are sending one of our most capable General Officers and visionary leaders, Brigadier General "Tom" Sheridan to head up the new Space Radar program office. There is no doubt in my mind, restructuring of the Space Radar program office guarantees the right leaders will be in position to develop this indispensable capability for our nation.

Finally, we are turning the corner in the Space Based Infrared System program, a critical warfighter need. The Space Based Infrared System will provide an enormous leap in capability over our aging, but very dependable Defense Support Program satellites. Our Defense Support Program has been Air Force Space Command's "Old Ironsides," extraordinarily dependable and battle proven. Our missile warning capabilities have kept Soldiers, Sailors, Airmen and Marines deployed around the globe safe from unwarned attack. The next generation Space Based Infrared System will continue our proud tradition of providing direct support to our joint warfighters worldwide.

We will continue to develop the necessary capabilities and tighten our grip on the space acquisition process. We are already benefiting from the initiatives started by the Acting Secretary of the Air Force over the past several years. We have solidified our requirements throughout our major space programs by instituting an urgent and compelling need requirements process. This process ensures only essential requirements that are both truly needed and funded are added to a program in development and will help us avoid "requirements creep" in our acquisition process.

I am truly honored and fortunate to serve with Lieutenant General Brian Arnold and his team of space professionals at the Space and Missile Systems Center in Los Angeles, CA, who are applying the lessons learned and making our development and acquisition team even better.

Challenges Ahead

We are on the right track to addressing the concerns in our space acquisition business. We need to ensure technical issues are researched and a solid technical risk

mitigation plan is created and followed. We must ensure our program managers have an adequate management reserve of resources to handle developmental problems. We must give our program managers the training, tools and resources to be successful and that's clearly a top priority for our Air Force Space Command team.

How we acquire our space capabilities is distinctly different from the acquisition of other Department of Defense capabilities. Because we procure small numbers of units, we do not have the ability to reduce quantities acquired; therefore, any overruns can only be addressed by extending the schedule and ultimately delaying the capability. Almost 70% of our Life Cycle Costs for Space Programs are incurred in the development phase alone. Another unique aspect to space is by placing our capabilities on orbit it gives us just one shot to be successful. We are unable able to take a "fly, fix, fly" approach. We take a "test as you fly" approach. It is absolutely critical to understand these profound differences in the acquisition of space capabilities when compared to the procurement of other weapons system and Department of Defense capabilities. These various factors combine to create some tough challenges for us in the future.

We exist in a global, interdependent economy and we cannot neglect how powerful space capabilities have become in our global society. A resourceful enemy will look at our centers of gravity and try to attack them. Terrorists around the world are not aiming their actions at our military alone. They have declared war on our way of life and not against our military force in a traditional sense. Our enemies can bring crippling destruction to our nation in a matter of days, or even hours, and our space capabilities are not immune to attack. Our adversaries understand our growing global dependence

on space capabilities, and we must be ready to handle any threat to our space infrastructure. The strategic challenges we face are different and more difficult than past threats.

Other nations and their militaries understand the importance of our space capabilities in how America wages modern war. The threats against our space capabilities are building and we must be ready and able to face the challenges poised by these evolving threats.

Space Professional Development

During World War II, General George C. Marshall was asked if America had a secret weapon to win the war. "We do indeed," he replied, "The best damn kids in the world." He was right. Today's Airmen, Soldiers, Sailors and Marines are the secret weapons of the Latest Greatest Generation. The future of our young space force hinges on the development of our most precious and valuable resource; our people. We look to the challenges before us with the greatest amount of confidence, because we truly have dedicated and highly skilled space professionals in place; ready to serve the needs of our Nation. The biggest threat to our space capabilities and personnel is complacency. We have extraordinarily capable systems and people, but we must continue to invest in our future.

As you know, our Air Force leaders have made "Developing and Maintaining Our Space Professionals" a top priority for our Nation. Personnel knowledgeable on the medium of space and highly skilled in their respective fields of operations, developmental engineering, acquisition and research are indispensable to our success today and will only grow in importance. The dedicated space professionals I have the

privilege to serve with are some of the best men and women America has to offer. The future of military space is bright and we need to make sure we give the next generation the proper development to become the space experts for the future.

I was truly honored and pleased to appear before this committee last summer to give you our update on the development of our Nation's space professionals. We have made some tremendous strides in establishing a Space Professional Development Strategy and I would like to thank this committee for your support.

Space Professional Development must be equally applied across our reserve, guard, civilian, and active duty personnel (both officer and enlisted alike.) Furthermore, this is a national skill set we intend to build and it can not be limited to an individual service or governmental agency. Given the overwhelming demand and growing importance of our Space Professionals there is one key ingredient to our future success: teamwork. The synergistic effects of pooling our governmental space expertise together far outweighs the sum of the individual parts. The Air National Guard, Air Force Reserve and our civilian professionals are indispensable to our Air Force Space Command missions. We will continue to build upon our Space Professional Development successes with a strategy for ensuring the development of our Space Professionals in our Air Reserve Component.

We have a transcending responsibility as leaders to provide for the professional development of our people. Our senior leaders in the Department of Defense, Air Force and Air Reserve Component clearly understand the commitment this requires. The Space Professional Development program is on track and already providing outstanding

results. We still have some hard work ahead of us, but our dedication and energy is well focused on this vital program.

Conclusion

Our most recent operations in Afghanistan and Iraq prove our Nation relies on capabilities coming from and through space, more than ever before. We have many people to thank for the fielded capabilities our warfighters are using today to prosecute this dangerous war against terrorism. We owe a debt of gratitude to a number of influential leaders in the Air Force space and missile community over the years.

I can only hope our Nation's history will accurately capture the incredible leadership of the Acting Secretary of the Air Force, the Honorable Pete Teets. General Jumper and I have been truly blessed to work with such a great American and visionary space leader. There is no better example of his legacy than the assistance and leadership he has provided Air Force Space Command in the development of our Space Professionals. We understand the significance of developing our space professionals, and rest assured we are dedicated to this cause.

Our Nation cannot rest on the asymmetric advantage we have today in space. We must move out and "Command Our Future" to make sure we continue to provide the world's greatest space and missile capabilities to our joint forces operating in harm's way around the globe. We are committed to developing our space professionals and I am proud to represent Air Force Space Command here today. Once again, I am honored to appear here before this distinguished committee.