STATEMENT OF

GENERAL C. ROBERT KEHLER

COMMANDER, AIR FORCE SPACE COMMAND

BEFORE THE

SENATE ARMED SERVICES COMMITTEE

STRATEGIC FORCES SUBCOMMITTEE

UNITED STATES SENATE

ON

MARCH 4, 2008

Introduction

Mister Chairman, Senator Sessions and distinguished members of the subcommittee, it is an honor to appear before you today as an Airman and, for the first time, as the Commander of Air Force Space Command (AFSPC).

I am proud and humble to lead and represent over 39,000 Active Duty, Guard and Reserve Airmen; government civilians; and contractors who deliver space and missile capabilities to America and its warfighting commands 24 hours a day, 7 days a week, 365 days a year. We do this as an integral part of the United States Air Force (USAF)--an Air Force which operates in and through air, space, and cyberspace in order to deliver Global Vigilance, Global Reach, and Global Power for America. Assuring the Nation's access to space, protecting our freedom to operate in space, and providing joint warfighting capabilities from space are core Air Force missions.

The men and women of AFSPC serve around the globe. From AFSPC Headquarters, Fourteenth Air Force (14 AF), Twentieth Air Force (20 AF), Space and Missile Systems Center (SMC), Space Innovation and Development Center (SIDC), and a host of deployed and forward locations, our space professionals are organizing, training, equipping, and providing the space capabilities needed to fight and win the Global War on Terror. Today, I can report confidently that the space and missile capabilities acquired with your help and support and delivered by the Airmen of AFSPC to the Commander, United States Strategic Command (USSTRATCOM) are helping to maintain America's freedom, security and prosperity.

Last month, I visited a number of units and commanders in the United States Central Command (USCENTCOM) Area of Responsibility (AOR). At one stop I received a mission briefing from a B-1B Lancer bomber pilot. He reflected that while preparing for the briefing, he came to realize that space capabilities were embedded throughout the planning, execution and debriefing phases of his mission. His bomber crew planned their missions using Intelligence, Surveillance and Reconnaissance (ISR) terrain mapping and weather data from space systems; the aircraft carried Global Positioning System (GPS)-aided Joint Direct Attack Munitions (JDAMs); when they were flying, real-time updates from a variety of space-based and other sources flowed to them over satellite communications (SATCOM) data links; the tanker and bomber crews coordinated air-refueling operations using GPS; and strike assessment was conducted. This pilot also knew that a combination of space, air, and terrestrial assets would immediately come to his assistance if his crew came down in hostile territory. In effect, space assets would take the search out of search and rescue. In the AOR, I saw first-hand how space plays a crucial role in virtually every mission and every operation. Every commander I visited confirmed this assessment.

Space power gives America's joint forces a decisive advantage and has shaped the "American way of warfare." Today, America's joint forces are interconnected, have global cognizance, and can produce swift and precise effects providing overwhelming and decisive results with minimum collateral damage. Our friends and adversaries alike have noted this decisive advantage. As a result, having witnessed or learned the cost of challenging the United States head-on, would-be adversaries are actively pursuing

asymmetric strategies to challenge our advantages in air, space and cyberspace. The evidence is clear and convincing.

During Operation Iraqi Freedom, we experienced GPS jamming and since then we have witnessed a worldwide proliferation of technology that can be used against our space systems. Our space capabilities face a wide range of threats including radio frequency jamming, laser blinding and anti-satellite systems. The emergence of these threats requires a broad range of capabilities, from diplomatic to military, to protect our interest in space.

Our National Space Policy acknowledges that space is vital to our national security. We are not alone in our use of space. Today, 28 foreign militaries operate in space.

We can no longer take freedom of action in any of our warfighting domains for granted. From this point forward, we should expect to be challenged not only in the air, but in and through space and cyberspace as well. We clearly recognize that no future conflict will be won without the ability to achieve air, space, and cyberspace superiority when and where required and we face significant challenges as we look to the future. Therefore, it is crucial that we develop and resource a strategy that protects our space advantages and ensures we remain a world leader in space.

It is my distinct pleasure to define the strategic way forward for AFSPC and to describe for you our plan to conceive, acquire, employ and execute Air Force space and missile capabilities in an increasingly complex, dynamic and challenging global environment. I will present our mission and vision, affirm the guiding principles that

characterize our approach, highlight some of our recent successes and describe how the Fiscal Year 2009 (FY 2009) budget request supports our strategic way ahead.

As always, AFSPC undertakes our important mission with three USAF priorities in mind--win today's fight, take care of our people and prepare for tomorrow's challenges. We look forward to working with your committee and the Congress to achieve our goals.

Mission

Deliver space and missile capabilities to America and its warfighting commands

Our mission is clear. For over 50 years, the Air Force has led the Nation's military space efforts and AFSPC continues that heritage as we deliver space power to USSTRATCOM, Joint Force Commanders around the globe, the Services, the Intelligence Community (IC), civil agencies, commercial entities and Allies.

Vision

America's space leaders…delivering responsive, assured, decisive space power

The USAF provides air, space and cyberspace power as part of a joint warfighting team. As we look to the future, the military space power element must become more responsive to the warfighter, it must remain assured under stressing conditions, it must contribute decisively as an integral piece of the larger whole, and it must be developed and wielded by space professionals who are recognized leaders in both the space domain and in joint warfighting operations.

Guiding Principles

The following principles shape our approach and underpin our mission and vision.

- *The USAF space mission serves joint forces, our Nation and the world at large.* The Nation has entrusted the Air Force and AFSPC with advocating, acquiring, and operating capabilities that are vital to our National security, economic growth, public safety, and welfare. The men and women of AFSPC help defend our homeland and our global interests abroad with space and ground-based missile early warning systems; connect national leaders and the military with secure global satellite communications; assure access to space for military, intelligence, civil and commercial purposes with medium and heavy space lift and range capabilities; keep watch over the space domain by tracking thousands of space objects; provide planners and commanders with critical environmental information; and deliver persistent position, navigation and timing signals to worldwide users from GPS, which provides multiple military benefits as well as a free, international utility. Many of these space systems are also called upon for help in disaster relief and search and rescue operations, at home and abroad. Additionally, our Nation places trust and confidence in AFSPC to secure, maintain, operate and support America's land based strategic deterrent, the Intercontinental Ballistic Missile (ICBM) force.
- *Nuclear forces underwrite our Nation's security.* Nuclear deterrence remains the ultimate backstop of our security by dissuading our opponents and

assuring our Allies through extended deterrence. Our Nation's security relies heavily on the responsive and stabilizing attributes of AFSPC's ICBM force.

- *Space is one of three interdependent USAF warfighting domains.* Air Force operations extend across the mutually-supporting and reciprocally-enabling domains of air, space and cyberspace. Thus, Airmen who are experts in the space domain play a key role in integrating capabilities to create a decisive joint military advantage. Cross-domain integration is the key.
- *Space and ICBM forces are global in their effect.* AFSPC delivers capabilities that transcend national and military boundaries and are intrinsically and simultaneously tactical and strategic, local and global. As a result, the men and women of AFSPC have a global perspective that influences the command and control of our forces and the way we provide and present them to USSTRATCOM. At the same time, we recognize the unique space requirements of U.S. Geographic Combatant Commanders around the world, and know that we must provide Joint Force Commanders with the space capabilities they need to see, know, and decisively act.
- *Like air power, space power shapes the U.S. approach to warfare.* Our increasingly net-centric Joint expeditionary force operates with smaller forward footprints and a greater dependence on reachback organizations. Space capabilities are inextricably embedded in an ever-more effective arsenal of modern weaponry and are threaded throughout the fabric of the Joint warfighting network. Without space, military operations would be far

less precise, focused, timely, coordinated or efficient and much more costly in every respect.

- *Space is a challenging, demanding, and contested domain.* Space acquirers, developers, and operators must be technically astute and tactically competent to ensure mission success in the space domain. While necessary, technical competence alone is not sufficient to meet 21st Century challenges. Today, AFSPC people must be adequately prepared to operate space assets and assure space capabilities in an increasingly contested environment.
- *Airmen are the core of America's space team.* The Airmen and civilian space professionals of AFSPC serve a National mission and our skills and expertise are National assets. Since the beginning of the space age, Airmen have contributed significantly to the National space enterprise. While Airmen are serving the military space mission today in AFSPC, many other Airmen are working elsewhere in the government within national security and civil space organizations. Commercial space companies and the space industry also abound with space professionals who gained training and experience while serving our Air Force.

While these principles shape our views, our sights are set directly on supporting the Air Force commitment to provide forces across the range of military operations to protect U.S. interests and values; to assure Allies; to dissuade and deter potential adversaries; and if deterrence fails, to defeat those who choose to become our enemies. In answering this call, with Congressional support, the space professionals of AFSPC last year delivered space and missile capabilities with great success.

A Year of Successes

AFSPC activities in 2007 supported the Expeditionary Air Force, delivered and demonstrated space and missile capabilities, improved relationships across the space enterprise, and cared for our Airmen and their families. We are also optimistic that we have made progress toward solving our systemic acquisition problems with our back-to-basics approach. Here are several of our key accomplishments.

- We forward-deployed nearly 4,000 Airmen--further developing a strong bond between AFSPC and the Airmen, Soldiers, Sailors and Marines who rely on our capabilities.
- The end of 2007 marked five consecutive years without premature failure of any AFSPC on-orbit system--many of our satellites are lasting years beyond their original predicted life spans and are exceeding expectations every day.
- AFSPC added to our all-time record which now stands at 56 successful National security payload launches in a row--we continued a string of excellence with 19 out of 19 successful operational launches using the Atlas V and Delta IV Evolved Expendable Launch Vehicles (EELVs).
- In November, AFSPC conducted the first operational launch of a Delta IV Heavy EELV which carried the last Defense Support Program (DSP) satellite into orbit.
- Without interruption of services, AFSPC completed the transition of the GPS ground control segment to the new Architecture Evolution Plan (AEP) system--replacing a 20-year-old command and control (C2) architecture with one that enables responsive Position, Navigation and Timing (PNT) services.

- Last year, AFSPC launched Glory Trip-193 to certify the use of the Mk 21 Safety Enhanced Reentry Vehicle (SERV) on the Minuteman III (MM III) ICBM. Additionally, this test demonstrated the capability of our ICBM force.
- AFSPC and the National Reconnaissance Office (NRO) further solidified our operational relationship.
- In addition, AFSPC sustained and expanded use of the Total Force. Last year, at Minot Air Force Base, North Dakota, we stood-up the first-ever Air National Guard unit to support intercontinental ballistic missile field security forces. At Schriever Air Force Base, the AFSPC Reserve Forces are growing with the transition of the 310th Space Group to wing status.
- We privatized nearly 2,500 military family housing residences at Peterson, Schriever, Los Angeles and Vandenberg Air Force Bases. Additionally, 351 AFSPC families moved into newly-privatized units at Buckley Air Force Base.
- Finally, AFSPC experienced one of the safest years in its 25-year history--we lost no Airmen in off-duty accidents. Moreover, AFSPC has had zero major weapons mishaps in over four years, zero major flight mishaps in eight years and zero major space mishaps in over two years.

As proud as we are of our success, AFSPC's strategic way forward is to focus on delivering the space and missile capabilities needed today and tomorrow by balancing recapitalization and modernization investments, implementing organizational and cultural changes and maturing our space professionals.

The Way Ahead

To defend America and provide needed capabilities to the joint team, AFSPC solidified over the last year a deliberate approach to confront the challenges of a dynamic strategic environment. The FY 2009 budget request carefully balances a number of critical priorities.

Maintain perfection as the standard for nuclear operations, maintenance, security and support.

In AFSPC, we are absolutely committed to providing a credible, safe and secure strategic deterrent. At any given moment, about 1,200 of the nearly 10,000 Airmen in 20 AF are on duty in the Nation's MM III ICBM missile fields in Montana, North Dakota, Wyoming, Nebraska and Colorado. These young professionals understand the awesome responsibilities entrusted to them and will never take those responsibilities or the Nation's trust and confidence for granted. This year we will continue to sustain the Minuteman ICBM system as we selectively improve security measures and implement any necessary recommendations resulting from various nuclear reviews.

- *Standards*. We have defined perfection for ourselves through tough standards—which have been tested and proven for five decades. We follow these standards to the letter and focus on structured, intensive training for our maintenance, security, and operations personnel.
- *Minuteman Life Extension*. The FY 2009 budget request continues the Congressionally-approved $6.7B life extension programs that will sustain the MM III to 2020 as we work to identify further investments that may be required

to sustain the MM III force to 2030. In January 2008, we completed deployment of the Guidance Replacement Program (GRP) which replaced some of the 1960s generation electronics in the guidance system. Currently the Propulsion Replacement Program (PRP), which replaces aging motors and propellant as well as environmentally unsafe materials and components, is 82 percent complete. The remaining MM III modification programs (the SERV and the Propulsion System Rocket Engine Life Extension Program (PSRE LEP) upgrade) are still on target for completion by 2012 and 2013 respectively. The SERV program enables the use of the Mk 21 reentry vehicle on MM III missiles, providing USSTRATCOM planners with increased targeting flexibility and enhanced safety. The PSRE LEP is extending the design life of this subsystem by replacing components originally produced in the 1970s.

- *Security Modernization*. AFSPC is also continuing to field robust capabilities funded under the ICBM Security Modernization Program (ISMP). Last year, we completed the installation of concrete headwork barriers at all operational launch facilities (LFs) to ensure the safety and security of our nuclear arsenal. In 2008, we are continuing to improve real-time situational awareness for our security forces through the Remote Visual Assessment (RVA) program. AFSPC is also replacing LF access doors with ones that enable our personnel to more quickly secure the silo hatch in case of a security threat during maintenance operations. In addition, we are also increasing the physical protection of our LFs with better technology and more effective

tactics. AFSPC is also taking additional steps within our budget this year to add security surveillance cameras at our Missile Alert Facilities (MAFs) and to add GPS tracking capability to Payload Transporter (PT) vans.

- *Prompt Global Strike (PGS)*. Looking to the future, the FY 2009 budget request responds to USSTRATCOM's PGS needs by developing and demonstrating critical concepts and technologies for a conventional strike alternative. To increase our deterrence and conventional strike capabilities, AFSPC is investing in research and development of technology for guidance, reentry vehicle and propulsion systems with the ICBM Demonstration/Validation (ICBM DEM/VAL) program and are aligning these initiatives with the results of the recently completed PGS Analysis of Alternatives and with the Congressionally-directed DoD-wide investment account.

Ensure mission success while delivering planned capability improvements.

Joint Force Commanders and the forces they lead rely on the capabilities provided by AFSPC and our operational commitment to deliver those capabilities to them every day can not falter. In addition to this operational commitment, we must also meet our aggressive program commitments to field and sustain leading-edge space capabilities on time and on cost. AFSPC is on final approach to deliver several major new Military SATCOM (MILSATCOM); PNT; and ISR capabilities over the next 18 to 24 months.

- *MILSATCOM*. The demand for satellite communications and bandwidth continues to grow. Aged in many cases beyond their design, Milstar and Defense Satellite Communications System-III (DSCS-III) continue to provide critical communications services for much of the Nation's daily secure and unsecure military and diplomatic activities as we deploy the next generation of advanced MILSATCOM capabilities.
  - The Wideband Global SATCOM (WGS) program provides communications capabilities greater than the entire constellation of DSCS-III satellites and increases coverage, capacity and connectivity for deployed tactical forces. In 2007, AFSPC launched WGS-1 and the Air Force negotiated a partnership with Australia to use the constellation and fund the procurement of a sixth WGS satellite. The FY 2009 budget request funds continued operation of WGS-1, on-orbit checkout and operation of WGS-2, and launch technical support and on-orbit checkout of WGS-3. WGS-4 and WGS-5 are currently in fabrication.
  - Our Advanced Extremely High Frequency (AEHF) program affords strategic and tactical users with secure, survivable anti-jamming and anti-scintillation communications. Each AEHF satellite has about ten times the capacity of Milstar II. The FY 2009 budget request supports the launch and on-orbit checkout of AEHF-1; completion of integration and testing of AEHF-2 for launch in 2009; continued assembly, integration and testing of AEHF-3; contracting of AEHF-4; and work on the Mission Control Segment.

- *Position, Navigation, and Timing (PNT)*. AFSPC is delivering PNT capabilities which are providing critical military benefits as well as a free international utility. Our GPS is the centerpiece of global PNT services and the GPS constellation enables an ever-increasing arsenal of precise munitions from the mainstay JDAM to the Air Force's new Small Diameter Bomb (SDB) and from the Army's Guided Multiple Launch Rocket System (GMLRS) to its Excalibur 155mm artillery round. Airmen in C-130 and C-17 aircraft are resupplying ground combat units in nearly impossible-to-reach places in Afghanistan by using the remarkable Joint Precision Air Drop Systems (JPADS) which have steerable parachutes with GPS guidance.
  - Last year, AFSPC launched two modernized GPS IIR-M satellites configured with new signals for increased anti-spoofing and anti-jamming capabilities for military users and more robust capabilities for civil users. With five of eight GPS IIR-M satellites on-orbit, AFSPC is launching the remaining three in 2008.
  - The follow-on block is GPS IIF which will have an extended design life of 11 years, include additional civil signals for improved accuracy and safety-of-life services and increased power to reduce vulnerability to signal jamming. The ground segment includes a master control station and a worldwide network of dedicated antennas and monitoring stations. The FY 2009 budget request supports launch and support of two GPS IIF satellites and delivery of the final architecture evolution plan.

- In concert with upgrades in the GPS space segment, we are also improving the GPS ground segment. AFSPC launched the last two GPS IIR-Ms using the new Launch, Anomaly Resolution and Disposal Operations (LADO) system; replacing an obsolete command and control system with a more modern and sustainable one.

- *Intelligence, Surveillance and Reconnaissance (ISR).* Our Nation has relied on Air Force space-based missile warning systems since the early 1970s.
  - AFSPC's Defense Support Program (DSP) provides missile warning, missile defense, battlespace awareness and technical intelligence collection capabilities.
  - The SBIRS program provides missile warning, missile defense, intelligence and battlespace awareness capabilities and will replace DSP. The SBIRS constellation will consist of four Geosynchronous Earth Orbit (GEO) satellites and two Highly Elliptical Orbit (HEO) payloads.
  - The first on-orbit SBIRS-HEO payload continues to exceed expectations in its checkout phase resulting in approval for early use in December 2007 and is on track to reach full operational acceptance in mid-2008. Additionally, HEO-2 has been built. On SBIRS GEO-1, AFSPC is correcting a safety issue in the flight software and is planning a launch in 2009. The FY 2009 budget request for SBIRS funds development, integration and test of GEO-1 and GEO-2 satellites and ground system; funds initial HEO operations; fully funds HEO-3 and GEO-3 procurement; funds HEO-4 advanced procurement; and funds HEO ground system

modifications and upgrades. The HEO-3 and HEO-4 payloads are designated as constellation replenishment assets.

- *Launch, Ranges and Networks*. Delivery of space capabilities begins with a successful launch. Our two space launch ranges at Patrick and Vandenberg Air Force Bases continue to be the lynchpin for America's assured access to space.
  - At our Eastern and Western Ranges, AFSPC supported 23 successful military, civil and commercial launches in 2007. The FY 2009 budget request supports sustainment and modernization of our launch ranges.
  - This year, AFSPC is deploying a new Air Force Satellite Control Network (AFSCN) antenna at Vandenberg Air Force Base which will facilitate over 30 satellite contacts per day. The AFSCN continues to be the Nation's backbone for satellite operations. AFSPC is upgrading antennas with the Remote Tracking Station (RTS) Block Change to ensure command and control of on-orbit capabilities is efficient and more accurate. The FY 2009 budget request funds the operation and gradual modernization of the AFSCN.

Increase space protection capabilities.

The USAF and AFSPC play a key role in defending the Nation's military, intelligence, civil and commercial space capabilities. The Air Force is uniquely charged with mission responsibilities to provide forces to defend United States space capabilities. Our strategy and investment approach balances the need for space

situational awareness, protection of space capabilities and protection of terrestrial forces from threats posed by adversary use of space against our interests.

- We must increase space situational awareness (SSA) while we address operational and physical vulnerabilities in our space, ground and link segments. The challenge is to find an affordable pathway to protect space capabilities that strikes the right balance among awareness, hardening, countermeasures, reconstitution and alternate means.
- The Integrated SSA (ISSA) program provides USSTRATCOM, Joint Functional Component Command for Space (JFCC-SPACE) and the joint community with an integrated source of current and predictive space events, threats and space activities. By employing a near real time, net centric construct, AFSPC is achieving higher accuracy space surveillance through fusion of other SSA elements. Funding from the FY 2009 budget request increases our ability to characterize the space domain by focusing on space event processing and analysis to include high accuracy conjunction assessments and rapid maneuver processing.
- AFSPC is also planning to field ground and space based sensors to improve space surveillance capabilities. The Space Fence program provides the capability to find, fix and track small objects in Low and Medium Earth Orbits (LEO and MEO) using three ground sites. The FY 2009 budget request for this program supports development awards to at least two contractors. Additionally, the Space-Based Space Surveillance (SBSS) program offers the ability to detect and track space objects; primarily those in GEO. With the

FY 2009 budget request, AFSPC is completing development of SBSS Block 10, launching the satellite in FY 2009 and working towards development of SBSS Block 20.

- The Rapid Attack Identification Detection and Reporting System (RAIDRS) Block 10 program detects and geolocates satellite communications interference via fixed and transportable ground systems. In 2007, AFSPC activated the 16th Space Control Squadron at Peterson Air Force Base to operate RAIDRS and we deployed one system to the USCENTCOM Theater to protect over 400 SATCOM links. The FY 2009 budget request continues funding for the RAIDRS Block 20 update which is introducing an automated means to characterize anti-satellite (ASAT) and directed energy attacks on space systems and services.
- Building a comprehensive SSA picture includes a fully collaborative, net-centric space command and control architecture that links JFCC-SPACE to the joint fight. AFSPC improved our Nation's global space C2 infrastructure in 2007 when the 614th Air and Space Operations Center, the core of USSTRATCOM's Joint Space Operations Center (JSpOC) transitioned to an expanded facility at Vandenberg Air Force Base, California. This effort modernized the JSpOC, streamlined operations, and more than doubled its physical size allowing for expanded missions and creating a platform for the future. With the FY 2009 budget request, AFSPC is furthering development of a comprehensive SSA picture via the Space C2 program.

- AFSPC is committed to improving protection of ground, link and space segments. While some of our space capabilities are well protected, AFSPC is taking into account that we will likely face a wider range of threats in the space domain and on the ground through links that control these systems. As we move forward to modernize and recapitalize, the nature of these threats means we are going to engineer space protection into our new systems.
- To help us make informed decisions about how best to preserve space capabilities, AFSPC is establishing the Space Protection Program. This program will focus our efforts and provide decision makers with strategic recommendations on how to best protect our space systems and stay ahead of the threat. We are already strengthening and unifying relationships across the defense and intelligence community.

Attract, develop and retain space professionals.

While AFSPC is developing and wielding remarkable capabilities, the source of our tremendous accomplishments is our space professionals. Our challenge is to continue attracting, developing and retaining Airmen with the skills necessary to maintain our competitive advantage. AFSPC is working with our partners in Air Education and Training Command (AETC), academia and elsewhere, to educate, train and cultivate experts in the space domain who are both technically and tactically competent, and who are skilled in integrating with other warfighting domains.

- Since 1996, the United States Air Force Weapons School (USAFWS) has graduated 180 space instructors from a pool of AFSPC's best and brightest.

Last year, AFSPC and the USAFWS continued their partnership in developing and delivering world-class graduates to expertly employ space and missile capabilities and to instruct the next generation of space operators.

- The tactical mindset is also evolving on the nuclear side. AFSPC is operating a world-class center focused on training nuclear security professionals. To ensure we are providing the most secure nuclear deterrent, 20 AF operates the Nuclear Space Security Tactics Training Center (NSSTTC) at Camp Guernsey, Wyoming. In 2007, this facility trained over 1,700 security forces on nuclear security and expeditionary tactics.
- AFSPC's National Security Space Institute (NSSI) is establishing itself as America's premier campus for superior space professional training and education. Last year, the NSSI taught 71 courses to 1,700 students--a 17 percent increase from 2006. Over 350 of those students were from other Services and for the first time, NSSI instructors taught our Allied partners. In 2008, AFSPC is partnering more closely with Air University (AU) as we look to transition more classes to AU in 2009.
- In 2007, AFSPC competitively selected twenty officer and enlisted space professionals for a fully-funded University of Colorado at Colorado Springs (UCCS) Space Certificate pilot program consisting of five courses focused on space and space systems, engineering management, information and communications systems and space policy. This year, AFSPC is selecting our second class and is using this pilot program as a catalyst for a master's degree.

Sustain AFSPC's enduring missions and mature emerging missions.

To better meet 21st Century challenges, AFSPC will recapitalize its force to sustain enduring space force enhancement capabilities while designing a future force to ensure flexible, responsive capabilities in a contested domain. Fully recognizing we do not currently have a capability to perform maintenance or repairs on orbital assets, we are committed to protect and reinvigorate satellite constellations to provide the level of utility expected by users all over the globe. Additionally, AFSPC will work with appropriate government agencies to explore opportunities for enhanced commercial, Allied and international partnerships.

- *Transformational Satellite Communications System (TSAT)*. Since last year, the Joint Requirements Oversight Council (JROC) validated requirements for increased worldwide protected communications capabilities to extend the ground-based Global Information Grid (GIG) to deployed and mobile forces and to support Comm-on-The-Move, the Army's Future Force Initiatives, the Navy's ForceNet, and the Marine's X-Net warfighting visions. AFSPC is pursuing transformational communications capabilities and is studying a future MILSATCOM architecture investment strategy in response to Congressional direction to procure a fourth Advanced Extremely High Frequency (AEHF) satellite. The FY 2009 budget request continues technology maturation and design of TSAT.
- *Global Positioning System III (GPS III)*. With GPS III, AFSPC is planning to further enhance military and civilian PNT capabilities by providing higher power, increased anti-jamming capability, and compatibility with European

Galileo signals. By implementing a block approach, AFSPC will use the FY 2009 budget request for GPS III Block A development and preliminary design review, capability insertion for Blocks B and C and risk reduction and concept development of the control segment.

- *Third-Generation Infra-Red Surveillance (3GIRS)*. In addition, AFSPC is planning to continue the critical space-based infrared warning systems into its third generation. With the FY 2009 budget request, we will continue wide field of view sensor testing and technology maturation activities along with development of an integrated test bed.
- *Upgraded Early Warning Radar (UEWR)*. AFSPC is also embracing emerging missions such as missile defense. Last year, our UEWR program achieved several milestones when USSTRATCOM operationally accepted two UEWRs. As a key player in a recent Missile Defense Agency (MDA) flight test, the Beale UEWR and its crew acquired and tracked a flight-test target reentry vehicle launched from Alaska; enabling the successful destruction by an interceptor launched from Vandenberg Air Force Base. The FY 2009 budget request supports sustainment and operation of the Beale and Fylingdales UEWRs.
- *Operationally Responsive Space (ORS)*. Last May, AFSPC successfully teamed with our sister services and interagency partners to stand up the ORS Office. AFSPC is working closely with the ORS Office to develop innovative acquisition approaches and capabilities to prepare the United States to respond to a contested space domain, to better respond to urgent warfighter

needs and to deploy small satellites and associated launch and control systems. AFSPC is continuing to work with the ORS Office to develop ORS as a national strategic capability and to export concepts to the broader Air Force space enterprise. The FY 2009 budget request supports the launch of TacSat-4 and continues the development of the first ORS spacecraft and enabling capabilities.

Improve the strategic acquisition, delivery and sustainment of space capabilities.

In today's world of rapid technological advancement and proliferation, we cannot afford to do business as usual when it comes to delivering space capabilities. We require a new strategy for how we develop, deliver and sustain space systems that is more than an incremental progression of acquisition processes and management methods. Such a strategy requires a paradigm shift with an end-state that deploys needed space capabilities more quickly than in the past while still executing efficient, business-like acquisition practices.

- To effect organizational and cultural changes, AFSPC is reviewing and adjusting our organization construct and processes. At the beginning of 2008, we reorganized Headquarters AFSPC activities, functions and relationships to enhance our ability to act as a single, integrated organization.
- Our next step is fostering external relationships. AFSPC is clearly articulating our needs for science and technology, research and development, acquisition, sustainment and training to Air Force Materiel Command (AFMC) and AETC. We are also intensifying collaboration with Air Combat Command

(ACC), including the USAF Warfare Center (USAFWC). Furthermore, AFSPC is supporting other major commands with space expertise and analysis.

- We are also working on proper alignment of development, acquisition and sustainment activities. We continue to build a more powerful and effective partnership with AFMC and SMC through better definition of roles, responsibilities and authorities.
- Finally, we have chartered a special study group to examine alternative acquisition strategies and recommend ways to shorten the time it takes to put space capabilities in the hands of the warfighter.

Improve integration across the air, space, and cyberspace domains.

Integration across air, space and cyberspace is more than combining and disseminating data among interrelated architectures. If air, space and cyberspace power each have a value of one, the sum of these capabilities is far greater than three. AFSPC is working with the other Air Force major commands and domain experts to develop shared strategic plans, operational concepts and architectures, doctrine, as well as tactics, techniques and procedures for the next conflict—one where emerging technologies in air, space and cyberspace domains can be leveraged and mutually supported within a joint construct.

- AFSPC is teaming extensively with the USAFWC and USSTRATCOM to increase space scenarios across the full spectrum of exercises. In March 2007, AFSPC conducted the most comprehensive space wargame to date

with 470 participants, including 74 flag officers or equivalents and 38 Allied partners. This wargame focused on the future and explored global space system architectures, technologies and C2 relationships; tackled concepts for integrating space with other warfighting domains; and examined potential policy trends and their implications. We look forward to the next game in 2009.

Conclusion

The Total Force AFSPC team plays an important role in delivering space and missile capabilities to America and its warfighting commands. These capabilities provide a decisive advantage for our national security and prosperity. With the continued support of the Congress, AFSPC is postured to continue to maintain a crucial leadership role as we realize our vision of *delivering responsive, assured and decisive space power*.